```
File 347:JAPIO Nov 1976-2004/Apr(Updated 040802)
         (c) 2004 JPO & JAPIO
File 350:Derwent WPIX 1963-2004/UD,UM &UP=200454
         (c) 2004  Thomson Derwent
File 348:EUROPEAN PATENTS 1978-2004/Aug W03
         (c) 2004 European Patent Office
File 349:PCT FULLTEXT 1979-2002/UB=20040819,UT=20040812
         (c) 2004 WIPO/Univentio

Set     Items   Description
S1         86   AU=(GETZINGER T? OR MALVAR H?)
S2         25   S1 AND COMPRESS?(3N)(IMAGE? ? OR PHOTO? ? OR PHOTOGRAPH? ?
                OR PICTURE? ? OR GRAPHIC?? OR MEDIA OR MULTIMEDIA OR VIDEO? ?
                OR MOVIE? ? OR FILM? ? OR ANIMATION OR ANIMATED OR JPEG OR JPG
                 OR GIF OR TIFF? ? OR BITMAP? ? OR BMP)
S3         14   S2 AND QUALITY
S4          8   S3 AND (WEIGHT??? OR HIGH()FREQUENCY)
S5          5   S3 AND HIGH()FREQUENCY
S6          3   S5 AND WEIGHT???
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6/5/1 **(Item 1 from file: 348)**
DIALOG(R)File 348:EUROPEAN PATENTS

00234354

APPARATUS FOR ADAPTING A DIGITIZED SIGNAL PROCESSING SYSTEM FOR BLOCK PROCESSING WITH MINIMAL BLOCKING ARTIFACTS.

VORRICHTUNG ZUR ANPASSUNG EINES DIGITALSIGNALVERARBEITUNGSSYSTEMS FUR BLOCKVERARBEITUNG MIT MINIMALEN BLOCKARTEFAKTEN.

DISPOSITIF PERMETTANT D'ADAPTER UN SYSTEME DE TRAITEMENT DE SIGNAUX NUMERISES POUR LE TRAITEMENT EN BLOC AVEC DES ARTEFACTS DE BLOCAGE MINIMAUX.

PATENT ASSIGNEE:
PICTURETEL CORPORATION, (828850), One Intercontinental Way, Peabody, MA 01960, (US), (applicant designated states: AT;BE;CH;DE;FR;GB;IT;LI;LU;NL;SE)
INVENTOR:
MALVAR, Henrique, S. , SQS 306 Bloco C apt.403, 70353 Brasilia,DF,, (BR
LEGAL REPRESENTATIVE:
Holdcroft, James Gerald, Dr. et al (31911), Graham Watt & Co., Riverhead, Sevenoaks, Kent TN13 2BN, (GB)

PATENT (CC, No, Kind, Date): EP 224583 A1 870610 (Basic)
EP 224583 A1 881026
EP 224583 B1 920422
WO 8607479 861218
APPLICATION (CC, No, Date): EP 86904499 860603; WO 86US1212 860603
PRIORITY (CC, No, Date): US 740806 850603
DESIGNATED STATES: AT; BE; CH; DE; FR; GB; IT; LI; LU; NL; SE
INTERNATIONAL PATENT CLASS: G06K-009/36; H04N-007/133;
CITED PATENTS (EP A): US 4205341 A
CITED PATENTS (WO A): US 4224678 A; US 4224678 A; US 4261043 A; US 4602286 A; US 4580158 A; US 4261018 A; US 4288858 A; US 4027257 A

CITED REFERENCES (EP A):
INTERNATIONAL CONFERENCE ON COMMUNICATIONS, CONFERENCE RECORD, Seattle, WA, 8th-12th June 1980, vol. 2, pages 31.7.1-31.7.5, IEEE; KING NGI NGAN et al.: "Lowpass filtering in the cosine transform domain"
IEEE INTERNATIONAL CONFERENCE ON ACOUSTICS, SPEECH AND SIGNAL PROCESSING, Paris, 3rd-5th May 1982, vol. 2, pages 1203-1206, IEEE; H.K. NAGPAL et al.: "Memory architecture of a video-rate image convolver"
IEEE INTERNATIONAL CONFERENCE ON ACOUSTICS, SPEECH AND SIGNAL PROCESSING, Boston, Massachusetts, 14th-16th April 1983, vol. 3, pages 1212-1215, IEEE; H.C. REEVE III et al.: "Reduction of blocking effect in image coding"
IEE PROCEEDINGS SECTION A a I, vol. 131, no. 5, part F, August 1984, pages 466-472, Old Woking Surrey, GB; D.E. PEARSON et al.: "Transform coding of images using interleaved blocks"
See also references of WO8607479;

NOTE:
No A-document published by EPO

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application:	870610	A1	Published application (A1with Search Report ;A2without Search Report)
Examination:	870722	A1	Date of filing of request for examination: 870527
Search Report:	881026	A1	Drawing up of a supplementary European search report: 880907
Change:	891108	A1	Inventor (change)
Change:	891115	A1	Inventor (change)
Examination:	900801	A1	Date of despatch of first examination report: 900615
Grant:	920422	B1	Granted patent
Lapse:	921119	B1	Date of lapse of the European patent in a Contracting State: SE 920422
Lapse:	921125	B1	Date of lapse of the European patent in a Contracting State: NL 920422, SE 920422
Lapse:	921230	B1	Date of lapse of the European patent in a Contracting State: BE 920422, NL 920422, SE 920422

Lapse:	930120 B1	Date of lapse of the European patent in a Contracting State: AT 920422, BE 920422, NL 920422, SE 920422
Oppn None:	930414 B1	No opposition filed
Lapse:	991020 B1	Date of lapse of European Patent in a contracting state (Country, date): AT 19920422, BE 19920422, IT 19920422, NL 19920422, SE 19920422,
Lapse:	991229 B1	Date of lapse of European Patent in a contracting state (Country, date): AT 19920422, BE 19920422, IT 19920422, LU 19920630, NL 19920422, SE 19920422,

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	EPBBF1	730
CLAIMS B	(German)	EPBBF1	673
CLAIMS B	(French)	EPBBF1	826
SPEC B	(English)	EPBBF1	4905
Total word count - document A			0
Total word count - document B			7134
Total word count - documents A + B			7134

6/5/2 (Item 1 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00533609 **Image available**
METHOD AND SYSTEM FOR CAPTURING AND REPRESENTING 3D GEOMETRY, COLOR AND SHADING OF FACIAL EXPRESSIONS
PROCEDE ET SYSTEME DE CAPTURE ET DE REPRESENTATION DE GEOMETRIE 3D, COULEUR ET CONTRASTE D'EXPRESSIONS FACIALES

Patent Applicant/Assignee:
MICROSOFT CORPORATION,
Inventor(s):
GUENTER Brian,
GRIMM Cindy Marie,
MALVAR Henrique Sarmento

Patent and Priority Information (Country, Number, Date):
Patent: WO 9964961 A1 19991216
Application: WO 99US12725 19990607 (PCT/WO US9912725)
Priority Application: US 9893590 19980608
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZA ZW GH GM KE LS MW SD SL SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
Main International Patent Class: G06F-015/00
Publication Language: English
Fulltext Availability:
Detailed Description
Claims
Fulltext Word Count: 17984

English Abstract
The method captures a 3D model of a face (260), which includes a 3D mesh and a series of deformations of the mesh that define changes in position of the mesh over time (e.g., for each frame). The method also builds a texture map associated with each frame in an animation sequence. The method achieves significant advantages by using markers on an actor's face (260) to track motion of the face over time and to establish a relationship between the 3D model and texture. Specifically, videos of an actor's face (260) with markers are captured from multiple cameras.

Stereo matching is used to derive 3D locations of the markers on each frame. A 3D scan is also performed on the actor's face with the markers to produce an initial mesh with markers (222). The markers from the 3D scan are matched with the 3D locations of the markers in each frame from the stereo matching process. The method determines how the position of the mesh changes from frame to frame by matching the 3D locations of the markers from one frame to the next. The method derives textures for each frame (280) by removing the dots from the video data, finding a mapping between texture space and the 3D space of the mesh, and combining the camera views for each frame into a signal texture map (240-246).

French Abstract
Ce procede de capture d'un modele tridimensionnel (3D) d'un visage (260) consiste a utiliser un maillage 3D ainsi qu'une serie de deformations de celui-ci, lesquelles definissent des changements de position du maillage dans le temps (par exemple pour chaque trame). Ce procede consiste egalement a construire une carte de textures, associee a chaque trame de la sequence d'animation, et il se revele tres avantageux en ce qu'il utilise des marqueurs sur le visage (260) d'un acteur, afin de suivre les mouvements du visage dans le temps et d'etablir une relation entre le modele 3D et la texture. L'invention concerne notamment la capture, a partir de plusieurs cameras, d'images video du visage (260) d'un acteur comprenant des marqueurs, la stereocorrespondance etant utilisee pour deriver des emplacements 3D des marqueurs dans chaque trame. Un balayage 3D est egalement execute sur le visage de l'acteur comprenant les marqueurs, afin de produire un maillage initial comprenant les marqueurs (222). Les marqueurs provenant du balayage 3D sont mis en correspondance avec les emplacements 3D des marqueurs de chaque trame, a partir du processus de stereocorrespondance. Le procede de l'invention permet de determiner les changements de position du maillage, de trame a trame, par mise en correspondance des emplacements 3D des marqueurs, d'une trame a la suivante, et de deriver les textures de chaque trame (280) par enlevement des points a partir des donnees video, par recherche d'une mise en correspondance entre espace de texture et l'espace 3D du maillage, et par combinaison des prises de vue de la camera pour chaque trame, dans une carte de textures de signaux (240-246).

6/5/3 (Item 2 from file: 349)

00134960

METHOD AND SYSTEM FOR ADAPTING A DIGITIZED SIGNAL PROCESSING SYSTEM FOR BLOCK PROCESSING WITH MINIMAL BLOCKING ARTIFACTS

PROCEDE ET SYSTEME PERMETTANT D'ADAPTER UN SYSTEME DE TRAITEMENT DE SIGNAUX NUMERISES POUR LE TRAITEMENT EN BLOC AVEC DES ARTEFACTS DE BLOCAGE MINIMAUX

Patent Applicant/Assignee:
PICTEL CORPORATION,
Inventor(s):
MALVAR Henrique S

Patent and Priority Information (Country, Number, Date):
Patent: WO 8607479 A1 19861218
Application: WO 86US1212 19860603 (PCT/WO US8601212)
Priority Application: US 85806 19850603
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
AT BE CH DE FR GB IT JP LU NL SE
Main International Patent Class: G06K-009/36
Publication Language: English
Fulltext Availability:
Detailed Description
Claims
Fulltext Word Count: 11920

English Abstract

A method and apparatus for processing n-dimensional digitized signals containing at least two adjacent blocks of digitized sample values (Fig. 3). The digitized signal is transformed in accordance with a spatial transform operator (30). The spatial transform operator is characterized by similar size blocks to the blocks in the input signal, but is operative over blocks of the signal which extend beyond the nominal blocks in the signal by a predetermined number of sample value in at least one dimension (Figs. 5-8). The resultant signal may be similarly transformed by another spatial transform operator (38) to obtain an output transform signal. The latter signal is substantially free from blocking artifacts.

File 347:JAPIO Nov 1976-2004/Apr(Updated 040802)
(c) 2004 JPO & JAPIO
File 350:Derwent WPIX 1963-2004/UD,UM &UP=200454
(c) 2004 Thomson Derwent

Set	Items	Description
S1	30721	COMPRESS?(3N)(IMAGE? ? OR PHOTO? ? OR PHOTOGRAPH? ? OR PICTURE? ? OR GRAPHIC?? OR MEDIA OR MULTIMEDIA OR VIDEO? ? OR MOVIE? ? OR FILM? ? OR ANIMATION OR ANIMATED OR JPEG OR JPG OR GIF OR TIFF? ? OR BITMAP? ? OR BMP)
S2	38406	COMPRESS?(3N)(CONTENT? ? OR DATA OR INFORMATION OR FILE? ? OR DOCUMENT? ? OR ARTICLE? ? OR TEXT? ? OR TEXTUAL OR EMAIL OR MAIL OR MESSAGE? ?)
S3	1748	COMPRESS???(3N)(MAXIMUM OR MAXIMAL?? OR BEST OR HIGHEST OR GREATEST OR LARGEST)
S4	103050	SIZE(5N)(SMALL??? OR MINIMUM OR MINIMAL OR LOW??? OR NOMINAL OR LEAST)
S5	2798	S3:S4(10N)(DETERMIN? OR ESTIMAT??? OR ASSESS? OR IDENTIF? OR CALCULAT? OR ASCERTAIN? OR FIND??? OR COMPUTE OR COMPUTES OR COMPUTED OR COMPUTING OR GAUG? OR MEASUR? OR DISCERN?)
S6	740510	QUALITY OR RESOLUTION OR INTEGRITY
S7	39620	(WEIGHT??? OR SCOR??? OR GRAD??? OR RATE? ? OR RATING)(5N)(IMAGE? ? OR PHOTO? ? OR PHOTOGRAPH? ? OR PICTURE? ? OR GRAPHIC?? OR MEDIA OR MULTIMEDIA OR VIDEO? ? OR MOVIE? ? OR FILM? ? OR ANIMATION OR ANIMATED)
S8	70583	(WEIGHT??? OR SCOR??? OR GRAD??? OR RATE? ? OR RATING)(5N)(JPEG OR JPG OR GIF OR TIFF? ? OR BITMAP? ? OR BMP OR CONTENT? ? OR DATA OR INFORMATION OR FILE? ? OR DOCUMENT? ? OR ARTICLE? OR TEXT? ? OR TEXTUAL OR EMAIL OR MAIL OR MESSAGE? ?)
S9	6671	(HIGH()FREQUENCY()ENERGY OR COMPLEX? OR INTRICAT? OR INTRICACY)(5N)(IMAGE? ? OR PHOTO? ? OR PHOTOGRAPH? ? OR PICTURE? ? OR GRAPHIC?? OR MEDIA OR MULTIMEDIA OR VIDEO? ? OR MOVIE? ? OR FILM? ? OR ANIMATION OR ANIMATED OR MAIL? ?)
S10	6735	(HIGH()FREQUENCY()ENERGY OR COMPLEX? OR INTRICAT? OR INTRICACY)(5N)(JPEG OR JPG OR GIF OR TIFF? ? OR BITMAP? ? OR BMP OR CONTENT? ? OR DATA OR INFORMATION OR FILE? ? OR DOCUMENT? ? OR ARTICLE? OR TEXT? ? OR TEXTUAL OR EMAIL OR MESSAGE?)
S11	54	S1:S2 AND S5
S12	15	S11 AND S6
S13	72	S1:S2 AND S3:S4 AND QUALITY
S14	32604	COMPRESS???(5N)(SMALL??? OR MINIMUM OR MINIMAL OR LOW??? OR NOMINAL OR LEAST)
S15	576	S14(10N)(DETERMIN? OR ESTIMAT??? OR ASSESS? OR IDENTIF? OR CALCULAT? OR ASCERTAIN? OR FIND??? OR COMPUTE OR COMPUTES OR COMPUTED OR COMPUTING OR GAUG? OR MEASUR? OR DISCERN?)
S16	132	S1:S2 AND S15
S17	24	S6 AND S16
S18	23	S17 NOT S12
S19	15	S1:S2 AND S3:S4 AND S14 AND QUALITY
S20	12	S19 NOT (S12 OR S18)
S21	60836	DENSITY(5N)(IMAGE? ? OR PHOTO? ? OR PHOTOGRAPH? ? OR PICTURE? ? OR GRAPHIC?? OR MEDIA OR MULTIMEDIA OR VIDEO? ? OR MOVIE? ? OR FILM? ? OR ANIMATION OR ANIMATED OR MAIL? ?)
S22	24490	DENSITY(5N)(JPEG OR JPG OR GIF OR TIFF? ? OR BITMAP? ? OR BMP OR CONTENT? ? OR DATA OR INFORMATION OR FILE? ? OR DOCUMENT? ? OR ARTICLE? OR TEXT? ? OR TEXTUAL OR EMAIL OR MESSAGE?)
S23	1189	S7:S8(7N)(S9:S10 OR S21:S22)
S24	43	S1:S2 AND S23
S25	1	S1:S2 AND HIGH()FREQUENCY()ENERGY
S26	43	S24 NOT S25
S27	1498665	WEIGHT??? OR SCOR??? OR GRAD??? OR RATE? ? OR RATING
S28	717757	HIGH()FREQUENCY()ENERGY OR COMPLEX? OR INTRICA? OR DENSITY
S29	3295839	IMAGE? ? OR PHOTO? ? OR PHOTOGRAPH? ? OR PICTURE? ? OR GRAPHIC?? OR MEDIA OR MULTIMEDIA OR VIDEO? ? OR MOVIE? ? OR FILM? ? OR ANIMATION OR ANIMATED OR MAIL? ?
S30	3989170	JPEG OR JPG OR GIF OR TIFF? ? OR BITMAP? ? OR BMP OR CONTENT? ? OR DATA OR INFORMATION OR FILE? ? OR DOCUMENT? ? OR ARTICLE? OR TEXT? ? OR TEXTUAL OR EMAIL OR MESSAGE?

S31 730 S27(5N)S29:S30(5N)S28(5N)(DETERMIN? OR ESTIMAT??? OR ASSESS? OR IDENTIF? OR CALCULAT? OR ASCERTAIN? OR FIND??? OR COMPUTE OR COMPUTES OR COMPUTED OR COMPUTING OR GAUG? OR MEASUR? OR DISCERN? OR ASSIGN??? OR GIVEN OR GIVING)

S32 31 S1:S2 AND S31

12/5/1 (Item 1 from file: 347)
DIALOG(R)File 347:JAPIO

07552894 **Image available**
METHOD AND PROGRAM FOR SCANNING IMAGE AND RECORDING MEDIUM

PUB. NO.: 2003-046734 [JP 2003046734 A]
PUBLISHED: February 14, 2003 (20030214)
INVENTOR(s): HABA YOSHIHITO
APPLICANT(s): CANON INC
APPL. NO.: 2001-235056 [JP 2001235056]
FILED: August 02, 2001 (20010802)
INTL CLASS: H04N-001/17; G06T-001/60; H04N-001/387; H04N-001/413

ABSTRACT

PROBLEM TO BE SOLVED: To limit the size of files, when reading images to make image files.

SOLUTION: The size of an image scanned and an upper limit file size are set, and based on these settings, a **resolution** for scanning the image is determined, and the data of the image scanned with the **determined resolution** is **compressed** to make an **image** file, whose **size** is equal to or **smaller** than the upper limit **size** . Further, multi-auto crop is coped with through **resolution** conversion, to make image files whose size is equal to or smaller than the upper limit size.

12/5/2 (Item 2 from file: 347)
DIALOG(R)File 347:JAPIO

07365031 **Image available**
METHOD AND DEVICE FOR STORING **IMAGE** FRAME BY **COMPRESSION** DEPENDING ON USER'S CHOICE

PUB. NO.: 2002-233528 [JP 2002233528 A]
PUBLISHED: August 20, 2002 (20020820)
INVENTOR(s): BRACKETT CHARLES CAMERON
APPLICANT(s): GE MEDICAL SYSTEMS GLOBAL TECHNOLOGY CO LLC
APPL. NO.: 2001-288041 [JP 2001288041]
FILED: September 21, 2001 (20010921)
PRIORITY: 00 667878 [US 2000667878], US (United States of America), September 22, 2000 (20000922)
INTL CLASS: A61B-008/00; G06T-001/00; G06T-009/00; H04N-001/41; H04N-005/781; H04N-005/91; H04N-005/92; H04N-007/18

ABSTRACT

PROBLEM TO BE SOLVED: To provide an irreversible compression in unit of an image to a digital image.

SOLUTION: A user of a system can manually change a compression level applied to an image frame made stationary by use of a rotary dial 32. The obtained each **compressed image** can be observed on a display monitor 18 in real time. The user **determines** the **maximum compression** level to obtain enough diagnostic **quality** in a region of interest. The method and device can be applied to an arbitrary imaging device in the case of storing an image in a memory or in the case of transmitting an image to be stored in an external memory.

12/5/3 (Item 3 from file: 347)
DIALOG(R)File 347:JAPIO

03936872 **Image available**
PICTORIAL COMMUNICATION EQUIPMENT

PUB. NO.: 04-301972 [JP 4301972 A]
PUBLISHED: October 26, 1992 (19921026)
INVENTOR(s): SUGIYAMA MITSUMASA
APPLICANT(s): CANON INC [000100] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 03-066233 [JP 9166233]
FILED: March 29, 1991 (19910329)
INTL CLASS: [5] H04N-001/41; G06F-015/66; H04N-007/13
JAPIO CLASS: 44.7 (COMMUNICATION -- Facsimile); 44.6 (COMMUNICATION -- Television); 45.4 (INFORMATION PROCESSING -- Computer Applications)
JOURNAL: Section: E, Section No. 1332, Vol. 17, No. 125, Pg. 102, March 16, 1993 (19930316)

ABSTRACT

PURPOSE: To confirm the picture **quality** of an image transmitted to the equipment of a communicating party by an operator and to reduce the mental burden of the operator by providing a means to calculate the density change of the color image, calculating the part of the large density change to easily degrade the **image** and executing the **compression** , extension and display of the part.

CONSTITUTION: A scanner part 1 inputs the color image and transmits color image data to a density change discrimination part 2. The discrimination part 2 divides the color image into the blocks of 128X128 dots, for example, calculates the density changes at the respective blocks and **calculate** the block having the **largest** density change. A **compression** part 3 **compresses** the color **image data** and transmits the **compressed data** to a communication control part 4, and the control part 4 executes the communication with the equipment of the communicating party and transmits the **compressed** color **image data** . An extension part 5 extends the **compressed** color **image data** and transmits an image corresponding to the block, which is calculated by the discrimination part 2, having the large density change to a display part 6, and the display part 6 displays the image.

12/5/4 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX

015253811 **Image available**
WPI Acc No: 2003-314740/200331
XRPX Acc No: N03-250506
Data compression determination **procedure e.g. for medical equipment, involves selecting a** data compression **procedure giving the** highest compression **factor**
Patent Assignee: SIEMENS AG (SIEI); CHRIST T (CHRI-I); PRIHODA H (PRIH-I); SCHMIDT V (SCHM-I); SCHNEIDER S (SCHN-I); SCHUELL H (SCHU-I); STRIEBEL W (STRI-I); ZAHLMANN G (ZAHL-I)
Inventor: CHRIST T; PRIHODA H; SCHMIDT V; SCHNEIDER S; SCHUELL H; STRIEBEL W; ZAHLMANN G
Number of Countries: 002 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
DE 10128532	A1	20030102	DE 1028532	A	20010613	200331	B
US 20030095712	A1	20030522	US 2002172312	A	20020613	200336	

Priority Applications (No Type Date): DE 1028532 A 20010613
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 10128532	A1		9	H04N-001/41	
US 20030095712	A1			G06K-009/36	

Abstract (Basic): DE 10128532 A1

NOVELTY - A method for ascertaining a **data compression** method, from a lot of **data compression** procedures, for **data compressing** an **image data** -set assigned to an image. At a first location, at which the **data** is **compressed** , the **quality** that the image being communicated should have at a second location is ascertained, and based on the required **quality** , that **data compression** procedure is selected, from the several **data compression** procedures, which gives the highest possible compression factor and which allows the necessary **quality** of the image to be transmitted.

USE - Medical-technical equipment e.g. diagnostic X-ray equipment.

ADVANTAGE - Includes the prerequisites required for **data compression** of an **image data** set assigned to the image

DESCRIPTION OF DRAWING(S) - A flow diagram of the method encompassing four main steps (1b-4b) is shown .(Contains non-English language text).

pp; 9 DwgNo 4/4

Title Terms: DATA; COMPRESS; DETERMINE; PROCEDURE; MEDICAL; EQUIPMENT; SELECT; DATA; COMPRESS; PROCEDURE; HIGH; COMPRESS; FACTOR

Derwent Class: S03; S05; U21; W01

International Patent Class (Main): G06K-009/36; H04N-001/41

International Patent Class (Additional): G06K-009/00

File Segment: EPI

12/5/5 (Item 2 from file: 350)

DIALOG(R)File 350:Derwent WPIX

015173864 **Image available**

WPI Acc No: 2003-234392/200323

XRPX Acc No: N03-186624

Image reading method for scanner, involves producing image file having size smaller than set maximum file size by compressing image data read in resolution determined based on maximum file size

Patent Assignee: CANON KK (CANO)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 2003046734	A	20030214	JP 2001235056	A	20010802	200323	B

Priority Applications (No Type Date): JP 2001235056 A 20010802

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 2003046734	A		8	H04N-001/17	

Abstract (Basic): JP 2003046734 A

NOVELTY - **Resolution** of the reading image is determined based on the size of the image to be read and the set maximum file size. Image file having a size below the set maximum file size is produced by can pressing the image data read in the determined **resolution** .

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the following:

(1) program; and

(2) recording medium.

USE - Image reading method for scanner connected to host computer.

ADVANTAGE - Enables to produce the image file easily and simplifies operation.

DESCRIPTION OF DRAWING(S) - The figure shows the flowchart explaining the scanning of the mail screen. (Drawing includes non-English language text).

pp; 8 DwgNo 7/8

Title Terms: IMAGE; READ; METHOD; SCAN; PRODUCE; IMAGE; FILE; SIZE; SMALLER ; SET; MAXIMUM; FILE; SIZE; COMPRESS; IMAGE; DATA; READ; **RESOLUTION** ; DETERMINE; BASED; MAXIMUM; FILE; SIZE

Derwent Class: T01; W02

International Patent Class (Main): H04N-001/17

International Patent Class (Additional): G06T-001/60; H04N-001/387;

H04N-001/413
File Segment: EPI

12/5/6 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX

014698104 **Image available**
WPI Acc No: 2002-518808/200255
XRPX Acc No: N02-410691
Media signal recording method for home electronic entertainment applications, involves recording media **signal** compressed **at maximum compression rate without unacceptable loss of** quality **of media signal**
Patent Assignee: KORFIN R (KORF-I); SANDLER M (SAND-I); VENGO INC (VENG-N)
Inventor: KORFIN R; SANDLER M
Number of Countries: 001 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 20020064118	A1	20020530	US 2000725369	A	20001129	200255	B
US 6606287	B2	20030812	US 2000725369	A	20001129	200355	

Priority Applications (No Type Date): US 2000725369 A 20001129
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20020064118	A1		16	G11B-007/45	
US 6606287	B2			G11B-005/09	

Abstract (Basic): US 20020064118 A1
NOVELTY - Data items associated with a media signal are generated, from which a **maximum compression** rate is **determined** . The **media** signal is **compressed** at a **maximum compression** rate into a **compressed media** signal and is stored. Recording of the **compressed media** signal does not result in an unacceptable loss of **quality** of the media signal.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the following:
(1) Recorder; and
(2) Computer program product storing instructions for performing media signal recording.
USE - For recording media signal on VCR tape, DVD, CD, cassette tape and computer disk for home electronic entertainment applications.
ADVANTAGE - The **media** signal is **compressed** at either lower or higher **compression** rate. The **compressed media** signal is recorded, without unacceptable loss of **quality** of media signal.
DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of the general purpose computer.
pp; 16 DwgNo 10/10
Title Terms: MEDIUM; SIGNAL; RECORD; METHOD; HOME; ELECTRONIC; ENTERTAINMENT; APPLY; RECORD; MEDIUM; SIGNAL; COMPRESS; MAXIMUM; COMPRESS ; RATE; UNACCEPTABLE; LOSS; **QUALITY** ; MEDIUM; SIGNAL
Derwent Class: T01; U21; W04
International Patent Class (Main): G11B-005/09; G11B-007/45
File Segment: EPI

12/5/7 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX

014067031 **Image available**
WPI Acc No: 2001-551244/200162
XRPX Acc No: N01-409592
Video encoder with real time adjustment of quantization steps by computing **the maximum and** minimum **step** size **depending on the numbers of generated and target bits**
Patent Assignee: SHARP KK (SHAF); SHARP LAB AMERICA INC (SHAF)
Inventor: RIBAS J; RIBAS-CORBERA J

Number of Countries: 027 Number of Patents: 003
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 1096803	A2	20010502	EP 2000123169	A	20001025	200162	B
JP 2001169284	A	20010622	JP 2000321777	A	20001020	200162	
US 6535251	B1	20030318	US 99427889	A	19991026	200322	

Priority Applications (No Type Date): US 99427889 A 19991026
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 1096803	A2	E	24	H04N-007/50	
	Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI				
JP 2001169284	A		21	H04N-007/24	
US 6535251	B1			H04N-007/18	

Abstract (Basic): EP 1096803 A2

NOVELTY - A video signal is received by a video encoder (52) together with data from an encoding rate control unit (56) regarding quantization step size and the encoder encodes the video signal according to the step size, to produce a digital signal, which is input to an encoder buffer (54) at its production rate. Data are fed from the buffer through a channel (46) at constant or variable rate to a decoder buffer (62) and then to a video decoder (64) for final decoding.

DETAILED DESCRIPTION - AN INDEPENDENT CLAIM is included for a method of setting a quantization step.

USE - Coding a digital video signal at variable bit rate and quantization step.

ADVANTAGE - Achieving **compression** and high **image quality** .

DESCRIPTION OF DRAWING(S) - The drawing is a block diagram of the system

Video encoder (52)
Encoding rate control unit (56)
Encoder buffer (54)
Decoder buffer (62)
Video decoder (64)
pp; 24 DwgNo 5/16

Title Terms: VIDEO; ENCODE; REAL; TIME; ADJUST; QUANTUM; STEP; COMPUTATION; MAXIMUM; MINIMUM; STEP; SIZE; DEPEND; NUMBER; GENERATE; TARGET; BIT
Derwent Class: W02; W04
International Patent Class (Main): H04N-007/18; H04N-007/24; H04N-007/50
International Patent Class (Additional): H03M-007/30
File Segment: EPI

12/5/8 (Item 5 from file: 350)
DIALOG(R)File 350:Derwent WPIX

013889273 **Image available**
WPI Acc No: 2001-373486/200139
XRPX Acc No: N01-273166

Quality **parameter selecting method for image** compression **system, involves** estimating maximum **and minimum** quality **parameters, and setting target** compressed file **size using rate distortion curve**

Patent Assignee: EASTMAN KODAK CO (EAST)
Inventor: HONSINGER C W; JONES P W; RABBANI M
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 6212302	B1	20010403	US 98222190	A	19981229	200139	B

Priority Applications (No Type Date): US 98222190 A 19981229
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 6212302	B1		13	G06K-009/36	

Abstract (Basic): US 6212302 B1

NOVELTY - The digital **image** (10) is **compressed** relevant to quantizer parameters for obtaining files. A rate-distortion curve is formed from quantizer parameters and corresponding target file **size** . The maximum and **minimum quality** parameters are **estimated** . The specific parameters is selected based on the rate distortion curve and file size.

USE - For **image compression** system used with printer, digital satellite transmission, Internet.

ADVANTAGE - Enables user to specify the minimum and maximum **quality** parameters relevant to file size and visual distortion due to flexible rate control strategy.

DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of **quality** parameter selecting method.

Digital image (10)

pp; 13 DwgNo 1/6

Title Terms: **QUALITY** ; PARAMETER; SELECT; METHOD; IMAGE; COMPRESS; SYSTEM; ESTIMATE; MAXIMUM; MINIMUM; **QUALITY** ; PARAMETER; SET; TARGET; COMPRESS; FILE; SIZE; RATE; DISTORT; CURVE

Derwent Class: T01; T04

International Patent Class (Main): G06K-009/36

File Segment: EPI

12/5/9 (Item 6 from file: 350)

DIALOG(R)File 350:Derwent WPIX

013772088 **Image available**

WPI Acc No: 2001-256299/200126

Related WPI Acc No: 2002-236112; 2002-665945; 2004-327523

XRPX Acc No: N01-182665

Content **independent lossless** data compression **method, involves encoding input with lossless encoders, determining** compression **ratio, and selecting** data **block for output**

Patent Assignee: REALTIME DATA LLC (REAL-N)

Inventor: FALLON J J

Number of Countries: 088 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 6195024	B1	20010227	US 98210491	A	19981211	200126	B
WO 200239591	A1	20020516	WO 2000US42018	A	20001109	200239	N
AU 200130794	A	20020521	WO 2000US42018	A	20001109	200260	N
			AU 200130794	A	20001109		

Priority Applications (No Type Date): US 98210491 A 19981211; WO 2000US42018 A 20001109; AU 200130794 A 20001109

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 6195024	B1		29	H03M-007/34	
WO 200239591	A1	E		H03M-007/30	

Designated States (National): AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

AU 200130794	A	H03M-007/30	Based on patent WO 200239591	

Abstract (Basic): US 6195024 B1

NOVELTY - The method involves encoding the input with lossless encoders, **determining** the **data compression** ratio, and selecting **data** block with highest **compression** ratio for output.

DETAILED DESCRIPTION - An input block of data is received from a stream of data, in which the stream comprises several data blocks. The size of the input data block is counted, and the block is encoded using lossless encoders, to provide several encoded data blocks. The size of each of the encoded data blocks is counted. The lossless **data compression** ratio, obtained for each encoder, is determined by taking

the ratio of the size of the encoded data block from the encoders to the size of the input data block. The size of the compression ratio is compared with a user specified **compression** ratio. A **data** block is selected for output, and a null type **data compression** descriptor is appended to the input data block, if all of the compression ratios fall below the user specified value. The encoded data block with the highest compression ratio is selected for output, and a corresponding **data** type **compression** descriptor is appended to the selected encoded data block, if at least one of the compression ratios exceed the user specified threshold. INDEPENDENT CLAIMS are included for **content** independent lossless **data compression** system.

USE - For data processing, especially for continuous information such as speech, music, audio, images, and video.

ADVANTAGE - The method achieves maximum compression in accordance with the real time or pseudo real time data rate constraint. The output bit rate is not fixed, and the amount of permissible data **quality** degradation is not adaptable, but is user specified.

DESCRIPTION OF DRAWING(S) - The figure shows a schematic block diagram illustrating a compression system.

Data block counter (10)
Input data buffer (20)
Encoder module (30)
Buffer/counter module (40)
Compression ratio determination comparison (50)
Compression type descriptor (60)
pp; 29 DwgNo 2/12

Title Terms: CONTENT; INDEPENDENT; LOSS; DATA; COMPRESS; METHOD; ENCODE; INPUT; LOSS; ENCODE; DETERMINE; COMPRESS; RATIO; SELECT; DATA; BLOCK; OUTPUT
Derwent Class: U21
International Patent Class (Main): H03M-007/30; H03M-007/34
International Patent Class (Additional): H03M-007/00
File Segment: EPI

12/5/10 (Item 7 from file: 350)
DIALOG(R)File 350:Derwent WPIX

012081418 **Image available**
WPI Acc No: 1998-498329/199843
XRPX Acc No: N98-389348

Image data compression **and decompression method - having for each elementary subset which** size **is larger than** minimum **dimension with division suitability** estimation **step and when appropriate, step of supplementary partioning of subset**

Patent Assignee: CANON KK (CANO)
Inventor: AMONOU I; CHARRIER M; DIERIECK C
Number of Countries: 026 Number of Patents: 006
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 868073	A1	19980930	EP 98400672	A	19970328	199843	B
FR 2761552	A1	19981002	FR 973863	A	19970328	199845	
FR 2761553	A1	19981002	FR 973864	A	19970328	199845	
FR 2761554	A1	19981002	FR 973865	A	19970328	199845	
JP 11055124	A	19990226	JP 98100259	A	19980327	199919	
US 6266451	B1	20010724	US 9846602	A	19980324	200146	

Priority Applications (No Type Date): FR 973865 A 19970328; FR 973863 A 19970328; FR 973864 A 19970328
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 868073	A1	E	77	H04N-001/41	
Designated States (Regional): AL AT BE CH DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					
FR 2761552	A1			H03M-007/50	
FR 2761553	A1			H03M-007/50	
FR 2761554	A1			H03M-007/50	

JP 11055124 A 192 H03M-007/30
US 6266451 B1 G06K-009/36

Abstract (Basic): EP 868073 A

The method involves, for each elementary subset which does not have the minimum dimension, an iteration of a sequence of steps having a division suitability estimation step during which a suitability for division of the elementary subset is estimated. The suitability estimate does not meet predetermined so-called '' **quality** '' criteria, a step of ''supplementary partitioning'' of the subset into so-called ''intermediate'' elementary subsets (Ki). A ''construction'' step in which, for each elementary subset resulting from the last partitioning step, n working subsets (Li) are considered, n being non-zero, and an elementary mapping of the n working subsets in the elementary subset under consideration is constructed by determining the parameters (ai, b) of the elementary mapping so as to make contractive a so-called ''first type'' global mapping. For the set of data, the global mapping belongs to the group of mappings composed of multidimensional mappings and non-linear mappings.

The restrictions of the global mapping to the elementary subsets being composed of the elementary mappings. The fixed point of the global mapping constitutes an approximation of all or part of this set, allow the use of a method of successive approximations (407-410) converging towards the fixed point of the global contractive mapping. The set of parameters determined, and, when a supplementary partitioning step has taken place, so-called ''partitioning'' information, representing each the supplementary partitioning, jointly constitutes a primary representation of the set of data.

ADVANTAGE - Improved performances, **quality** of data or restored **image** . Results in significant **compression** of **data** to be transmitted or stored.

Dwg.3/21

Title Terms: IMAGE; DATA; COMPRESS; DECOMPRESS; METHOD; ELEMENTARY; SUBSET; SIZE; LARGER; MINIMUM; DIMENSION; DIVIDE; SUIT; ESTIMATE; STEP; APPROPRIATE; STEP; SUPPLEMENTARY; SUBSET

Derwent Class: W02; W04

International Patent Class (Main): G06K-009/36; H03M-007/30; H03M-007/50; H04N-001/41

International Patent Class (Additional): G06T-001/00; G06T-009/00; H04N-007/24; H04N-007/26

File Segment: EPI

12/5/11 (Item 8 from file: 350)

DIALOG(R)File 350:Derwent WPIX

011790856 **Image available**

WPI Acc No: 1998-207766/199818

XRPX Acc No: N98-165000

Digital image compression **method to obtain** image **data set for subsequent reconstruction - performing modified zero tree coding on range of absolute image values from largest, to** determined smaller **absolute value based upon file** size **or** quality

Patent Assignee: WDE INC (WDEW-N); ZADOR A M (ZADO-I)

Inventor: ZADOR A M

Number of Countries: 077 Number of Patents: 005

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9811728	A1	19980319	WO 97CA452	A	19970625	199818	B
AU 9732496	A	19980402	AU 9732496	A	19970625	199833	
EP 908055	A1	19990414	EP 97928069	A	19970625	199919	
			WO 97CA452	A	19970625		
US 6125201	A	20000926	WO 97CA452	A	19970625	200051	
			US 98147403	A	19981218		
JP 2000513895	W	20001017	WO 97CA452	A	19970625	200056	
			JP 98508277	A	19970625		

Priority Applications (No Type Date): US 96668753 A 19960624; US 98147403 A

19981218
Patent Details:
Patent No Kind Lan Pg Main IPC Filing Notes
WO 9811728 A1 E 60 H04N-007/26
Designated States (National): AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE HU IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG US UZ VN
Designated States (Regional): AT BE CH DE DK EA ES FI FR GB GH GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW
AU 9732496 A H04N-007/26 Based on patent WO 9811728
EP 908055 A1 E H04N-007/26 Based on patent WO 9811728
Designated States (Regional): AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
US 6125201 A G06K-009/00 Based on patent WO 9811728
JP 2000513895 W 85 H04N-001/41 Based on patent WO 9811728

Abstract (Basic): WO 9811728 A
The method involves determining if a digital image is a colour in RGB colour space and converting any determined RGB colour images to a less redundant colour space. A wavelet decomposition is performed upon each of the image colour planes in the less redundant colour space to obtain a transform of DC and non-DC terms, with subsequent lossless coding of the DC terms. The transform is converted to sign and magnitude format. A division point is selected comprising one of an adjacent pair of bit-planes and a pair of adjacent amplitudes, separating the non-DC terms into first and second ranges based upon absolute magnitudes. The first range comprises transform values greater in magnitude than those values in the transform second range.
The method uses a scalar quantiser to encode the first range values. A vector quantiser encodes the second range values. The resulting data set is coded with a lossless entropy encoder to obtain a **compressed image data** set.
ADVANTAGE - Allows error detection and correction codes to be applied in lossless coding of DC terms, modified zero-tree or vector quantisers, as desired, based upon importance of coded information to final reconstructed **quality** and compression requirements.
Dwg.1/10
Title Terms: DIGITAL; IMAGE; COMPRESS; METHOD; OBTAIN; IMAGE; DATA; SET; SUBSEQUENT; RECONSTRUCT; PERFORMANCE; MODIFIED; ZERO; TREE; CODE; RANGE; ABSOLUTE; IMAGE; VALUE; DETERMINE; SMALLER; ABSOLUTE; VALUE; BASED; FILE; SIZE; **QUALITY**
Derwent Class: T01; W02; W04
International Patent Class (Main): G06K-009/00; H04N-001/41; H04N-007/26
International Patent Class (Additional): H04N-001/46; H04N-001/60; H04N-007/28; H04N-011/04
File Segment: EPI

12/5/12 (Item 9 from file: 350)
DIALOG(R)File 350:Derwent WPIX

010441036 **Image available**
WPI Acc No: 1995-342355/199544
XRPX Acc No: N95-255753
Data compression **method for** video **system, television broadcasting - by using compression rate** determination **part in** determining greatest compression **rate based on compression rate currently stored which will eventually serve as predetermined compression rate**
Patent Assignee: DENON CO LTD (NPCO)
Number of Countries: 001 Number of Patents: 001
Patent Family:
Patent No Kind Date Applicat No Kind Date Week
JP 7236139 A 19950905 JP 9446328 A 19940221 199544 B

Priority Applications (No Type Date): JP 9446328 A 19940221
Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes
JP 7236139 A 10 H04N-007/30

Abstract (Basic): JP 7236139 A

The method involves **compression** (2) of **data** using a predetermined **compression** rate. Meanwhile, a compression rate prediction part (5) predicts the compression rate of the present **data** according to the **compression** result of the **data** which was **compressed** before it.

A storage part (6) holds each compression rate which goes back to the first **data** that were **compressed** up to those which was last **compressed** . The **greatest compression** rate is **determined** by a compression rate **determination** part (16) based on the currently stored **data compression** rates. Once the greatest compression rate is determined, it will be given to the compression part to serve as the predetermined compression rate.

ADVANTAGE - Reduces overflow that produces flush and stroboscope when scene and image changes sharply, provides reproduction image without sense of incongruity, and prevents deterioration of **data quality** due to **compression** rate determination part and compression part.

Dwg.1/9

Title Terms: DATA; COMPRESS; METHOD; VIDEO; SYSTEM; TELEVISION; BROADCAST; COMPRESS; RATE; DETERMINE; PART; DETERMINE; GREATER; COMPRESS; RATE; BASED; COMPRESS; RATE; CURRENT; STORAGE; SERVE; PREDETERMINED; COMPRESS; RATE

Derwent Class: U21; W02

International Patent Class (Main): H04N-007/30

International Patent Class (Additional): H03M-007/30; H04N-001/41; H04N-005/92

File Segment: EPI

12/5/13 (Item 10 from file: 350)

DIALOG(R)File 350:Derwent WPIX

010050941 **Image available**

WPI Acc No: 1994-318652/199440

XRPX Acc No: N94-250311

Fuzzy controlled coding method for block image data - determining quantisation step size from image complexity, buffer fullness, motion vector and picture brightness.

Patent Assignee: SAMSUNG ELECTRONICS CO LTD (SMSU)

Inventor: JEONG J; JUNG J

Number of Countries: 006 Number of Patents: 008

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 620686	A2	19941019	EP 94302674	A	19940414	199440	B
JP 7050830	A	19950221	JP 9477347	A	19940415	199517	
EP 620686	A3	19950308	EP 94302674	A	19940414	199542	
US 5475433	A	19951212	US 94228553	A	19940415	199604	
KR 9711859	B1	19970718	KR 936313	A	19930415	199947	
EP 620686	B1	20000607	EP 94302674	A	19940414	200032	
DE 69424825	E	20000713	DE 624825	A	19940414	200040	
			EP 94302674	A	19940414		
JP 3121197	B2	20001225	JP 9477347	A	19940415	200102	

Priority Applications (No Type Date): KR 936313 A 19930415

Cited Patents: No-SR.Pub; 5.Jnl.Ref; EP 514865; JP 5260455; US 5038209

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 620686	A2	E	15	H04N-007/13	
Designated States (Regional): DE FR GB					
JP 7050830	A		14	H04N-007/24	
EP 620686	A3			H04N-007/13	
US 5475433	A		12	H04N-007/32	
KR 9711859	B1			G06T-001/00	

EP 620686 B1 E H04N-007/30
Designated States (Regional): DE FR GB
DE 69424825 E H04N-007/30 Based on patent EP 620686
JP 3121197 B2 13 H04N-007/24 Previous Publ. patent JP 7050830

Abstract (Basic): EP 620686 A
The method involves establishing fuzzy control regulations providing a quantisation step size from input variables comprising image complexity, buffer fullness, motion vector and picture brightness. Linguistic truth values related to the respective input variables and corresp. membership functions are determined. A membership grade is established from each membership function.
The calculated membership grade, the associated linguistic truth value and the fuzzy control regulations are used to generate a second membership function. This generation is in accordance with a predetermined reasoning operation. The quantisation step size is determined according to the second membership function, using a predetermined de-fuzzification operation.
ADVANTAGE - Enables high image **quality** to be achieved at high **data compression** rates.
Dwg.3/5
Title Terms: FUZZ; CONTROL; CODE; METHOD; BLOCK; IMAGE; DATA; DETERMINE; QUANTUM; STEP; SIZE; IMAGE; COMPLEX; BUFFER; FULL; MOTION; VECTOR; PICTURE; BRIGHT
Derwent Class: T01; W02; W04
International Patent Class (Main): G06T-001/00; H04N-007/13; H04N-007/24; H04N-007/30; H04N-007/32
International Patent Class (Additional): G06F-009/44; G06T-009/00; H03M-007/38; H04N-007/50
File Segment: EPI

12/5/14 (Item 11 from file: 350)
DIALOG(R)File 350:Derwent WPIX

009503824 **Image available**
WPI Acc No: 1993-197360/199324
XRPX Acc No: N93-151767
Document image compression **method establishing required memory space - selects quantising matrix in dependence of memory space needed to store** image data **after** compression **by discrete transform technique.**
Patent Assignee: UNISYS CORP (BURS)
Inventor: HIGGINS-LUTHMAN M J; KIDD R C; KLEIN R D; YEN R C; ZALINSKI C M; YEN R; HIGGINS-LUTHMANN M J
Number of Countries: 017 Number of Patents: 011
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9311629	A2	19930610	WO 92US9910	A	19921119	199324	B
EP 568681	A1	19931110	EP 92925284	A	19921119	199345	
			WO 92US9910	A	19921119		
US 5339368	A	19940816	US 91796703	A	19911121	199432	
JP 7502154	W	19950302	WO 92US9910	A	19921119	199517	
			JP 93510145	A	19921119		
EP 798919	A2	19971001	EP 92925284	A	19921119	199744	
			EP 97105726	A	19921119		
EP 568681	B1	19971022	EP 92925284	A	19921119	199747	
			WO 92US9910	A	19921119		
			EP 97105726	A	19921119		
DE 69222844	E	19971127	DE 622844	A	19921119	199802	
			EP 92925284	A	19921119		
			WO 92US9910	A	19921119		
EP 798919	A3	19971119	EP 92925284	A	19921119	199816	
			EP 97105726	A	19921119		
US 5751846	A	19980512	US 91796703	A	19911121	199826	
			US 94207284	A	19940307		
EP 798919	B1	20000216	EP 92925284	A	19921119	200014	
			EP 97105726	A	19921119		

DE 69230695 E 20000323 DE 630695 A 19921119 200022
EP 97105726 A 19921119

Priority Applications (No Type Date): US 91796703 A 19911121; US 94207284 A 19940307
Cited Patents: No-SR.Pub; DE 4034535; EP 187911; EP 380081; US 4903145; US 4920426
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9311629	A2	E	49	H04N-001/46	
Designated States (National): JP					
Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LU MC NL SE					
EP 798919	B1	E		H04N-001/41	Div ex application EP 92925284 Div ex patent EP 568681
Designated States (Regional): DE FR GB IT					
DE 69230695	E			H04N-001/41	Based on patent EP 798919
EP 568681	A1	E	2	H04N-001/46	Based on patent WO 9311629
Designated States (Regional): DE FR GB IT					
US 5339368	A		16	G06K-009/36	
JP 7502154	W		1	H04N-001/41	Based on patent WO 9311629
EP 798919	A2	E	20	H04N-001/41	Div ex application EP 92925284 Div ex patent EP 568681
Designated States (Regional): DE FR GB IT					
EP 568681	B1	E	30	H04N-001/46	Related to application EP 97105726 Related to patent EP 798919 Based on patent WO 9311629
Designated States (Regional): DE FR GB IT					
DE 69222844	E			H04N-001/46	Based on patent EP 568681 Based on patent WO 9311629
EP 798919	A3			H04N-001/46	Div ex application EP 92925284 Div ex patent EP 568681
US 5751846	A			G06K-009/00	Div ex application US 91796703 Div ex patent US 5339368

Abstract (Basic): WO 9311629 A
The method uses a packet size estimator to establish the packet size of the memory space required to store the image data for a given **document** after **compression** by discrete transform technique. The data comprises pixels each representing one of a number of grey levels.
A selection processor selects, as a function of the estimate, one of a number of transform coefficient modifier matrices, e.g. a matrix of quantising values. The selected matrix of modifiers is transmitted to a transform compressor for use in altering, e.g. quantising, the number of transform coefficients.
ADVANTAGE - Modifies compression characteristics in real time. Maximises image **quality** and background noise characteristics.
for
Dwg.2/9
Title Terms: DOCUMENT; IMAGE; COMPRESS; METHOD; ESTABLISH; REQUIRE; MEMORY; SPACE; SELECT; QUANTUM; MATRIX; DEPEND; MEMORY; SPACE; NEED; STORAGE; IMAGE; DATA; AFTER; COMPRESS; DISCRETE; TRANSFORM; TECHNIQUE
Derwent Class: T01; T05; W02
International Patent Class (Main): G06K-009/00; G06K-009/36; H04N-001/41; H04N-001/46
International Patent Class (Additional): H04N-001/407; H04N-007/30
File Segment: EPI

12/5/15 (Item 12 from file: 350)
DIALOG(R)File 350:Derwent WPIX

009254997 **Image available**
WPI Acc No: 1992-382414/199246
XRPX Acc No: N92-291597
Estimating motion contents in digital video signals - using hierarchical processing with different block sized from coarser to finer with

prediction of motion vectors from surrounding blocks

Patent Assignee: DV SWEDEN AB (DVSW-N)
Inventor: CHRISTENSSON B; WEISS P
Number of Countries: 017 Number of Patents: 009
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9219068	A1	19921029	WO 92SE219	A	19920403	199246	B
SE 9101113	A	19921013	SE 911113	A	19910412	199249	
SE 469866	B	19930927	SE 911113	A	19910412	199341	
EP 579692	A1	19940126	EP 92908559	A	19920403	199404	
			WO 92SE219	A	19920403		
JP 6506578	W	19940721	JP 92508095	A	19920403	199433	
			WO 92SE219	A	19920403		
US 5557341	A	19960917	WO 92SE219	A	19920403	199643	
			US 93133089	A	19931008		
EP 579692	B1	19961009	EP 92908559	A	19920403	199645	
			WO 92SE219	A	19920403		
DE 69214444	E	19961114	DE 614444	A	19920403	199651	
			EP 92908559	A	19920403		
			WO 92SE219	A	19920403		
JP 3299263	B2	20020708	JP 92508095	A	19920403	200247	
			WO 92SE219	A	19920403		

Priority Applications (No Type Date): SE 911113 A 19910412
Cited Patents: US 4691230; US 4796087; US 4800425; US 4924310
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9219068	A1	E	20	H04N-005/14	
Designated States (National): CA JP US					
Designated States (Regional): AT BE CH DE DK ES FR GB GR IT LU MC NL SE					
SE 9101113	A			H04N-007/13	
SE 469866	B			H04N-007/13	
EP 579692	A1	E	2	H04N-005/14	Based on patent WO 9219068
Designated States (Regional): DE FR GB					
JP 6506578	W		1	H04N-007/13	Based on patent WO 9219068
US 5557341	A		11	H04N-005/14	Based on patent WO 9219068
EP 579692	B1	E	13	H04N-005/14	Based on patent WO 9219068
Designated States (Regional): DE FR GB					
DE 69214444	E			H04N-005/14	Based on patent EP 579692
					Based on patent WO 9219068
JP 3299263	B2		8	H04N-007/32	Previous Publ. patent JP 6506578
					Based on patent WO 9219068

Abstract (Basic): WO 9219068 A

Each search step (S1, S2...) for each block of a picture involves the calculation of a predicted motion vector (PMV) based on motion vectors, obtained in the present search step and, possibly, from at least one preceding picture.

The PMV therefore corresponds to a predicted new displaced position for the associated block (RB) of the present picture (PN). The predetermined search area (SA) surround the displaced position and, with the pattern, is adapted to the present block size between two consecutive search steps.

USE/ADVANTAGE - Increases spatial **resolution** . Provides algorithm robustness. For conversion between different television signal standards, noise redn. of **video** signals, **data compression** for digital transmission of TV or HDTV signals and slow motion devices. Can be applied to multidimensional motion vector fields.

Dwg.1/6

Title Terms: ESTIMATE; MOTION; CONTENT; DIGITAL; VIDEO; SIGNAL; HIERARCHY; PROCESS; BLOCK; SIZE; COARSE; FINE; PREDICT; MOTION; VECTOR; SURROUND; BLOCK
Derwent Class: W02; W04
International Patent Class (Main): H04N-005/14; H04N-007/13; H04N-007/32
International Patent Class (Additional): G06F-015/70; H04N-007/01; H04N-007/24; H04N-009/64
File Segment: EPI

18/5/15 (Item 9 from file: 350)
DIALOG(R)File 350:Derwent WPIX

014422815 **Image available**
WPI Acc No: 2002-243518/200230
XRPX Acc No: N02-188426
Digital image compression **in** image **encoder, involves ordering** compressed **bit-stream of minimum set of passes into layers, from lowest to highest expected visual** quality **levels, to produce** compressed **digital** image
Patent Assignee: EASTMAN KODAK CO (EAST)
Inventor: JONES P W; JOSHI R L
Number of Countries: 028 Number of Patents: 003
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 1158774	A2	20011128	EP 2001201909	A	20010521	200230	B
JP 2002064710	A	20020228	JP 2001157380	A	20010525	200231	
US 6668090	B1	20031223	US 2000579689	A	20000526	200408	

Priority Applications (No Type Date): US 2000579689 A 20000526
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 1158774	A2	E	19	H04N-001/41	
	Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR				
JP 2002064710	A		17	H04N-001/41	
US 6668090	B1			G06K-009/46	

Abstract (Basic): EP 1158774 A2
NOVELTY - A visual image **quality** table (210) specifying expected visual image **quality** levels and threshold viewing distances are provided. **Compressed** bit-stream and the **minimum** set of passes of bit-stream are **identified** , to achieve corresponding **quality** level. The bit-streams are ordered into layers, from lowest to highest expected visual **quality** levels, by a layer formation and ordering unit (212), to produce a **compressed** digital **image** .
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:
(a) Computer program product;
(b) Image rate control method
USE - For encoding digital images using joint photographic experts group (JPEG2000) technique for printing and display applications.
ADVANTAGE - The subbands in each pass are quantized sufficiently using simple structure.
DESCRIPTION OF DRAWING(S) - The figure shows a flowchart of image encoder.
Visual image **quality** table (210)
Layer formation and ordering unit (212)
pp; 19 DwgNo 2/9
Title Terms: DIGITAL; IMAGE; COMPRESS; IMAGE; ENCODE; ORDER; COMPRESS; BIT; STREAM; MINIMUM; SET; PASS; LAYER; LOW; HIGH; VISUAL; **QUALITY** ; LEVEL; PRODUCE; COMPRESS; DIGITAL; IMAGE
Derwent Class: T01; W02; W04
International Patent Class (Main): G06K-009/46; H04N-001/41
International Patent Class (Additional): G06K-009/54; H03M-007/30; H03M-007/40; H04N-007/30
File Segment: EPI

18/5/17 (Item 11 from file: 350)
DIALOG(R)File 350:Derwent WPIX

012890388 **Image available**
WPI Acc No: 2000-062222/200005
Related WPI Acc No: 2000-038887
XRPX Acc No: N00-048748

Data compression **method in** video **coder**
Patent Assignee: KONINK PHILIPS ELECTRONICS NV (PHIG); PHILIPS AB (PHIG); BAILLEUL N (BAIL-I)
Inventor: BAILLEUL N
Number of Countries: 022 Number of Patents: 007
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 9957884	A2	19991111	WO 99IB724	A	19990422	200005 B
EP 992155	A2	20000412	EP 99913523	A	19990422	200023
			WO 99IB724	A	19990422	
CN 1273748	A	20001115	CN 99801043	A	19990422	200115
KR 2001014321	A	20010226	KR 99712463	A	19991229	200156
JP 2002506605	W	20020226	JP 99555114	A	19990422	200219
			WO 99IB724	A	19990422	
US 20030043906	A1	20030306	US 99300698	A	19990427	200320
US 6731812	B2	20040504	US 99300698	A	19990427	200430

Priority Applications (No Type Date): EP 98401721 A 19980707; EP 98401053 A 19980430
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9957884	A2	E	19	H04N-000/00	
Designated States (National): CN JP KR					
Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE					
EP 992155	A2	E		H04N-001/00	Based on patent WO 9957884
Designated States (Regional): DE ES FR GB IT					
CN 1273748	A			H04N-007/50	
KR 2001014321	A			G06F-007/00	
JP 2002506605	W		24	H04N-007/32	Based on patent WO 9957884
US 20030043906	A1			H04N-007/12	
US 6731812	B2			G06K-009/36	

Abstract (Basic): WO 9957884 A2

NOVELTY - The amount of **compressed data** (Xprd) which will be obtained at a future instant of time (Tfut) is predicted on the basis of initial value (VALint) of compression parameter (CPAR). The initial value is adapted on the basis of difference (DELTAX) between the predicted amount of data and desired amount of data (Xdes), so as to obtain adapted value (VALadp) of compression parameter.

USE - In moving pictures experts group (MPEG) video coder.

ADVANTAGE - The method employing stages of predicting, adapting and applying defined by compression parameter provides a better **quality** sequence of images. The **quality** of **data compression** in terms of **minimal** loss of **information** is influenced by **compression** parameter and **determines** to which extent the **data** is **compressed** , thus improving the **data** handling capacity of the receiving entity and avoiding unnecessary loss of data.

DESCRIPTION OF DRAWING(S) - The figure shows conceptual diagram illustrating the **data compression** method.

pp; 19 DwgNo 1/6

Title Terms: DATA; COMPRESS; METHOD; VIDEO; CODE
Derwent Class: T01; W02; W04
International Patent Class (Main): G06F-007/00; G06K-009/36; H04N-000/00; H04N-001/00; H04N-007/12; H04N-007/32; H04N-007/50
File Segment: EPI

18/5/22 (Item 16 from file: 350)
DIALOG(R)File 350:Derwent WPIX

009880682 **Image available**
WPI Acc No: 1994-160596/199420
Related WPI Acc No: 1997-052589; 2000-085233
XRPX Acc No: N94-126344

Page text, graphics **and** image data compression **for CRT, LCD or esp. raster printer - selecting compression algorithm according to type of** data , compressing **and storing**

Patent Assignee: ADOBE SYSTEMS INC (ADOB-N)
Inventor: GENTILE R S
Number of Countries: 009 Number of Patents: 012
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 597571	A2	19940518	EP 93306254	A	19930806	199420	B
CA 2104824	A	19940511	CA 2104824	A	19930825	199430	
JP 6284297	A	19941007	JP 93303312	A	19931110	199445	
EP 597571	A3	19950125	EP 93306254	A	19930806	199539	
US 5504842	A	19960402	US 92974204	A	19921110	199619	
			US 95467792	A	19950606		
US 5506944	A	19960409	US 92974204	A	19921110	199620	
			US 95486133	A	19950606		
US 5539865	A	19960723	US 92974204	A	19921110	199635	
US 5544290	A	19960806	US 92974204	A	19921110	199637	
			US 95470737	A	19950606		
US 5949968	A	19990907	US 92974204	A	19921110	199943	
			US 96670335	A	19960625		
EP 597571	B1	20020502	EP 93306254	A	19930806	200230	
DE 69331871	E	20020606	DE 631871	A	19930806	200245	
			EP 93306254	A	19930806		
JP 3454552	B2	20031006	JP 93303312	A	19931110	200366	

Priority Applications (No Type Date): US 92974204 A 19921110; US 95467792 A 19950606; US 95486133 A 19950606; US 95470737 A 19950606; US 96670335 A 19960625
Cited Patents: No-SR.Pub; 2.Jnl.Ref; EP 320014; EP 475601
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 597571	A2	E	26	G06F-015/72	
Designated States (Regional): DE FR GB IT NL SE					
CA 2104824	A			G06F-015/66	
JP 6284297	A		18	H04N-001/413	
EP 597571	A3			G06F-015/72	
US 5504842	A		18	G06K-015/00	Div ex application US 92974204
US 5506944	A		17	G06K-015/00	Div ex application US 92974204
US 5539865	A		17	G06K-015/00	
US 5544290	A		17	G06K-015/00	Div ex application US 92974204
US 5949968	A			G06K-015/00	Cont of application US 92974204 Cont of patent US 5539865
EP 597571	B1	E		G06T-009/00	
Designated States (Regional): DE FR GB IT NL SE					
DE 69331871	E			G06T-009/00	Based on patent EP 597571
JP 3454552	B2		19	H04N-001/413	Previous Publ. patent JP 6284297

Abstract (Basic): EP 597571 A

A two-dimensional page representation to be printed has a combination of text, graphic and image representation types. A buffer memory stores data representing the page. A program memory stores compression algorithms.

A processor is coupled to the data and program memories for identifying regions contained in the page representation, determining the type and extent of each type of representation, rasterising and **compressing** the **data** , storing sequentially the **compressed data** for each region, reading and decompressing the data when required for printing.

ADVANTAGE - Reduced buffer memory requirement in image printer, especially those with high **resolution** and colour.

32/5/17 (Item 7 from file: 350)
DIALOG(R)File 350:Derwent WPIX

013445971 **Image available**
WPI Acc No: 2000-617914/200059
XRPX Acc No: N00-457832
Statistical multiplexing apparatus for video broadcast systems, has video analyzer to generate compression signal based on complexity of input video signal
Patent Assignee: HUGHES ELECTRONICS CORP (HUGA)
Inventor: YANG C
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 6091455	A	20000718	US 97792631	A	19970131	200059	B

Priority Applications (No Type Date): US 97792631 A 19970131
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 6091455	A		13	H04N-007/24	

Abstract (Basic): US 6091455 A
NOVELTY - The video signals corresponding to **movie** is analyzed in **video** analyzer (62). The **complexity** detector in **video** analyzer generates **complex** signal based on **complexity** of input **video** signal. **Weighting** factor based on **complex** signal is **determined** and a compression signal is generated based on **weighting** factor.
DETAILED DESCRIPTION - The video signals corresponding to movie is analyzed in video analyzer (62) and generates compression signal. An encoder (48) generates encoded video signal at variable rate determined by **compression** signal. The **video** generator (12) permanently records encoded video signal so that video signal can be repeatedly broadcast on a day or a month for a predetermined time. The video signals have complexity varying with time and video signal is segmented into several video frames. In absence of scene changes in video signal, every Nth video frame is designated as I frame.
USE - For video broadcast systems such as cable television system and satellite based broadcast system for transmitting video signals or channels, central locations to several remote viewing locations.
ADVANTAGE - The video signals are permanently recorded in video generator so that they can be repeatedly broadcast for predetermined time in a day or month. When scene change is detected, the video frame corresponding to scene change is automatically designated as I frame so that frame will be represented by relatively large amount of data. The video channel is weighed based on its contents, therefore video channel having action movie is weighted heavier than other channels so that action movie could be encoded with more video data.
DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of statistical multiplexer for recording video signal connected to several program sources and video generator.
Video generator (12)
Encoder (48)
Video analyzer (62)
pp; 13 DwgNo 4/8
Title Terms: STATISTICAL; MULTIPLEX; APPARATUS; VIDEO; BROADCAST; SYSTEM; VIDEO; GENERATE; COMPRESS; SIGNAL; BASED; COMPLEX; INPUT; VIDEO; SIGNAL
Derwent Class: T01; W01; W02; W04
International Patent Class (Main): H04N-007/24
International Patent Class (Additional): H04N-007/26
File Segment: EPI

32/5/18 (Item 8 from file: 350)
DIALOG(R)File 350:Derwent WPIX

013429834 **Image available**

WPI Acc No: 2000-601777/200057
Related WPI Acc No: 2000-601775
XRPX Acc No: N00-445320
Video sequence encoding method for video **phone, involves selecting quantization level satisfying frame target bit** rate **based on encoding** complexity measure **to encode current frame**
Patent Assignee: SARNOFF CORP (SARN-N); KRISHNAMURTHY R (KRIS-I); SETHURAMAN S (SETH-I)
Inventor: KRISHNAMURTHY R; SETHURAMAN S
Number of Countries: 025 Number of Patents: 004
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200046999	A1	20000810	WO 2000US3092	A	20000203	200057 B
US 20020034245	A1	20020321	US 99118359	P	19990203	200224
			US 99376733	A	19990817	
TW 463505	A	20011111	TW 2000100056	A	20000104	200248
US 6539124	B2	20030325	US 99118359	P	19990203	200325
			US 99376733	A	19990817	

Priority Applications (No Type Date): US 99376733 A 19990817; US 99118359 P 19990203
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200046999	A1	E	17	H04N-007/50	
Designated States (National): BR CA CN JP KR					
Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE					
US 20020034245	A1			H04B-001/66	Provisional application US 99118359
TW 463505	A			H04N-007/50	
US 6539124	B2			G06K-009/36	Provisional application US 99118359

Abstract (Basic): WO 200046999 A1
NOVELTY - Video sequence encoding method involves segmenting current frame into different regions. An encoding complexity measure is generated based on first order temporal prediction model for each region of previously encoded frame, using which quantization level satisfying frame target bit rate is selected to encode the current frame.
USE - Used in video phone or video conferencing over plain old telephone service or integrated service digital network lines.
ADVANTAGE - Target frame level bit can be accurately met with lesser quantizer changes by segmenting current frame into different regions and generating encoding complexity for each region for selecting quantization level.
DESCRIPTION OF DRAWING(S) - The figure shows the flow diagram of processing involved in applying temporal prediction model during **video compression** processing.
pp; 17 DwgNo 2/2
Title Terms: VIDEO; SEQUENCE; ENCODE; METHOD; VIDEO; TELEPHONE; SELECT; QUANTUM; LEVEL; SATISFY; FRAME; TARGET; BIT; RATE; BASED; ENCODE; COMPLEX ; MEASURE; ENCODE; CURRENT; FRAME
Derwent Class: T01; W01; W02; W04
International Patent Class (Main): G06K-009/36; H04B-001/66; H04N-007/50
International Patent Class (Additional): H04N-007/26
File Segment: EPI

32/5/19 (Item 9 from file: 350)
DIALOG(R)File 350:Derwent WPIX

013154445
WPI Acc No: 2000-326317/200028
XRPX Acc No: N00-245456
Adaptive complexity quantization for moving picture expert group-2 video compression **to improve** picture **quality by modulating the nominal quantizer space for macro-blocks**

Patent Assignee: HU S C (HUSC-I); TEKTRONIX INC (TEKT)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
RD 430016	A	20000210	RD 2000430016	A	20000120	200028	B

Priority Applications (No Type Date): RD 00430016 A 20000120
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
RD 430016	A		1	H04N-000/00	

Abstract (Basic): RD 430016 A

NOVELTY - The subjective picture quality is improved by modulating the nominal quanitizer scale for a macro-block according to the local block variance versus the average **picture** block variance. A new variance is introduced with a range of the **complexity weighting** function, **calculated** from the block and average block variances according to the moving **picture** expert group-2 test model. The range is used for adapting the dynamic range of the modulation strength according to the scene complexity.

USE - Improving subjective picture quality by modulating the nominal quantization scale.

ADVANTAGE - Improved adaptation by introducing range variable into the mquant(j) equation.

pp; 1 DwgNo 0/0

Title Terms: ADAPT; COMPLEX; MOVE; PICTURE; EXPERT; GROUP; VIDEO; COMPRESS; IMPROVE; PICTURE; QUALITY; MODULATE; NOMINAL; SPACE; MACRO; BLOCK
Derwent Class: W02; W04
International Patent Class (Main): H04N-000/00
File Segment: EPI

32/5/20 (Item 10 from file: 350)
DIALOG(R)File 350:Derwent WPIX

013040994 **Image available**
WPI Acc No: 2000-212847/200019
XRPX Acc No: N00-159643

Image generation system for computer, has encoder which preforms data encoding based on estimated and actual pixel density information

Patent Assignee: CANON KK (CANO)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 11341290	A	19991210	JP 98147955	A	19980528	200019	B

Priority Applications (No Type Date): JP 98147955 A 19980528
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 11341290	A		10	H04N-001/41	

Abstract (Basic): JP 11341290 A

NOVELTY - An estimation unit estimates the pixel density, based on the stored density information about pixel group scanned last time, and pixel at selected position along main scanning direction. An encoder encodes the data, based on the estimated and actual density information. DETAILED DESCRIPTION - A selector chooses bit positions or position of bit row for encoding, based on the confirmation result on patterning mode of **data compression** objective area. According to the selected position, the density information about objective pixel with high position of vicinity relationship, are stored in a memory. An INDEPENDENT CLAIM is also included for image generation procedure.

USE - For generating images for computer, laser printer.

ADVANTAGE - Enhances bit **rate** of **data** subjected to predictive coding according to minimum **density information** , reliably. Since patterning of **data compression** objective area can be **determined** , high compression **rate** is obtained. DESCRIPTION OF DRAWING(S) - The

figure shows main hardware components of image generation system.
Dwg.1/6
Title Terms: IMAGE; GENERATE; SYSTEM; COMPUTER; ENCODE; PREFORM; DATA; ENCODE; BASED; ESTIMATE; ACTUAL; PIXEL; DENSITY; INFORMATION
Derwent Class: P75; T01; U21; W02
International Patent Class (Main): H04N-001/41
International Patent Class (Additional): B41L-005/00
File Segment: EPI; EngPI

32/5/21 (Item 11 from file: 350)

012899160 **Image available**
WPI Acc No: 2000-070995/200006
XRPX Acc No: N00-055414
Bit rate controller for digital image **or** video data compression **encoder**
Patent Assignee: TEKTRONIX INC (TEKT)
Inventor: EIFRIG R O; NAVEEN T; TABATABAI A
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5995151	A	19991130	US 95566100	A	19951204	200006 B
			US 97932681	A	19970918	

Priority Applications (No Type Date): US 97932681 A 19970918; US 95566100 A 19951204
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5995151	A		13	H04N-007/12	CIP of application US 95566100 CIP of patent US 5686964

Abstract (Basic): US 5995151 A
NOVELTY - Quality factor for the **image** block is **computed** by **computing** circuits based on the **complexity** factor and the target bit **rate** for the **image** block. The number of bits occupying the virtual buffer is controlled by a controller based on quality factor of the image so that a target value is attained for specific image sequence.
DETAILED DESCRIPTION - The **complexity** factor, quality factor and actual fit **rate** of an **image** block which are coded beforehand is obtained and a **complexity** factor for **image** block is generated by an **estimator** (20). An INDEPENDENT CLAIM is also included for moving **image data compressing** method.
USE - For digital **image** and **video data compression** encoder.

ADVANTAGE - Quality which is achievable for digital **image** when **compressed** to given number of bits is estimated. Number of bits required to represent digital image at particular quality in compressed form is estimated.
DESCRIPTION OF DRAWING(S) - The figure represents block diagram of bit rate controller.
Estimator (20)
pp; 13 DwgNo 4/12

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File 348:EUROPEAN PATENTS 1978-2004/Aug W03
         (c) 2004 European Patent Office
File 349:PCT FULLTEXT 1979-2002/UB=20040819,UT=20040812
         (c) 2004 WIPO/Univentio

Set     Items   Description
S1      21528   COMPRESS?(3N)(IMAGE? ? OR PHOTO? ? OR PHOTOGRAPH? ? OR PIC-
             TURE? ? OR GRAPHIC?? OR MEDIA OR MULTIMEDIA OR VIDEO? ? OR MO-
             VIE? ? OR FILM? ? OR ANIMATION OR ANIMATED OR JPEG OR JPG OR -
             GIF OR TIFF? ? OR BITMAP? ? OR BMP)
S2      28336   COMPRESS?(3N)(CONTENT? ? OR DATA OR INFORMATION OR FILE? ?
             OR DOCUMENT? ? OR ARTICLE? ? OR TEXT? ? OR TEXTUAL OR EMAIL OR
              MAIL OR MESSAGE? ?)
S3      28714   COMPRESS???(3N)(MAXIMUM OR MAXIMAL?? OR BEST OR HIGHEST OR
             GREATEST OR LARGEST OR SMALL??? OR MINIMUM OR MINIMAL OR LOW?-
             ?? OR NOMINAL OR LEAST)
S4     135913   SIZE(5N)(SMALL??? OR MINIMUM OR MINIMAL OR LOW??? OR NOMIN-
             AL OR LEAST)
S5       9867   S3:S4(10N)(DETERMIN? OR ESTIMAT??? OR ASSESS? OR IDENTIF? -
             OR CALCULAT? OR ASCERTAIN? OR FIND??? OR COMPUTE OR COMPUTES -
             OR COMPUTED OR COMPUTING OR GAUG? OR MEASUR? OR DISCERN?)
S6     678423   WEIGHT??? OR SCOR??? OR GRAD??? OR RATED OR RATING
S7     567153   HIGH()FREQUENCY()ENERGY OR COMPLEX? OR INTRICA? OR DENSITY
S8     837559   IMAGE? ? OR PHOTO? ? OR PHOTOGRAPH? ? OR PICTURE? ? OR GRA-
             PHIC?? OR MEDIA OR MULTIMEDIA OR VIDEO? ? OR MOVIE? ? OR FILM?
              ? OR ANIMATION OR ANIMATED
S9      17166   JPEG OR JPG OR GIF OR TIFF? ? OR BITMAP? ? OR BMP
S10       984   S3:S4(10N)(IDENTIF???? OR IDENTIFICATION)
S11        50   S1:S2(50N)(S5 OR S10)(50N)QUALITY
S12      1339   S8:S9(7N)S6(7N)S7(7N)(DETERMIN? OR ESTIMAT? OR ASSESS? OR -
             IDENTIF???? OR IDENTIFICATION OR CALCULAT? OR ASCERTAIN? OR F-
             IND??? OR COMPUTE OR COMPUTES OR COMPUTED OR COMPUTING OR GAU-
             G? OR MEASUR? OR DISCERN? OR ASSIGN??? OR GIVEN OR GIVING)
S13        19   S1:S2(50N)S12
S14      1051   HIGH()FREQUENCY()ENERGY
S15         4   S1:S2(50N)S14
```

11/3,K/8 (Item 8 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00962759
Photographic image compression method and system
Bildkompressionsvorrichtung und -System fur fotografische Bilder
Procede et systeme de compression d'image photographique
PATENT ASSIGNEE:
EASTMAN KODAK COMPANY, (201212), 343 State Street, Rochester, New York 14650, (US), (Applicant designated States: all)
INVENTOR:
Bryniarski, Gregory R., c/o Eastman Kodak Company, Patent Legal Staff, 343 State Street, Rochester, New York 14650-2201, (US)
Wilson, Brian R., c/o Eastman Kodak Company, Patent Legal Staff, 343 State Street, Rochester, New York 14650-2201, (US)
LEGAL REPRESENTATIVE:
Haile, Helen Cynthia et al (60522), Kodak Limited Patent, W92-3A, Headstone Drive, Harrow, Middlesex HA1 4TY, (GB)
PATENT (CC, No, Kind, Date): EP 874520 A2 981028 (Basic)
EP 874520 A3 991110
APPLICATION (CC, No, Date): EP 98201160 980411;
PRIORITY (CC, No, Date): US 842453 970424
DESIGNATED STATES: DE; FR; GB
EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI
INTERNATIONAL PATENT CLASS: H04N-001/41
ABSTRACT WORD COUNT: 74
NOTE:
Figure number on first page: 1

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:
Available Text Language Update Word Count
CLAIMS A (English) 9844 444
SPEC A (English) 9844 3428
Total word count - document A 3872
Total word count - document B 0
Total word count - documents A + B 3872

...SPECIFICATION because they are selected to accommodate the worst case scenario of all images containing high amounts of detail, will over-**compress** most images. Unfortunately, the more a photographic image is compressed, the more image quality that is lost. Over-compression of...

...addition, when a consumer has a photographic film processed and the images thereon scanned, with some images the degree of **compression** required even to barely fit the images on a limited storage medium, such as a diskette, will produce **compressed images** with unacceptable loss in image quality.

It is therefore desirable to have a compression method that **determines** the **minimum compression** necessary for a collection of images so that the actual compressed collection will fit within a limited storage space, such desirable if for a given collection of **images** , that the **compression** method recognizes that the compression required to fit the collection on such a fixed capacity medium produces unacceptable losses and compensates for this situation.

SUMMARY OF THE INVENTION

The present invention then, provides a method for **determining** the **minimum compression** needed to fit a collection of images within a limited storage space without undue wasting of the available space. That ...

...loss from a lossy compression method. Furthermore, the present invention provides a means for evaluating, for a given collection of **images** , when the **compression** required would produce unacceptable image quality loss, and for compensating for this situation.

In one aspect of the present invention there is provided a method of

compressing a collection of **images** using a variable **compression** function, comprising:
(a) compressing the set using an initial function;
(b) comparing the size of the resulting compressed image set...

11/3,K/9 (Item 9 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00957703
Bitstream quality analyzer
Bitstromqualitatanalysator
Analyseur de la qualite d'un train numerique
PATENT ASSIGNEE:
Hewlett-Packard Company, (206030), 3000 Hanover Street, Palo Alto, California 94304, (US), (applicant designated states: AT;BE;CH;DE;DK;ES;FI;FR;GB;GR;IE;IT;LI;LU;MC;NL;PT;SE)
INVENTOR:
Van Den Branden Lambrecht, Christian, 1063 Morse Ave., Apartment 21-306, Sunnyvale, CA 94089, (US)
Ong, Chong T., 5880 Granville Avenue, Richmond, British Columbia, (CA)
Liu, Samson J., 461 Burgess Drive, Unit 2, Menlo Park, CA 94025, (US)
Leonard, Mark A., Unit 45, 11491 7th Avenue, Richmond, British Columbia, (CA)
LEGAL REPRESENTATIVE:
Schoppe, Fritz, Dipl.-Ing. (55468), Schoppe & Zimmermann, Patentanwalte, Postfach 71 08 67, 81458 Munchen, (DE)
PATENT (CC, No, Kind, Date): EP 869684 A2 981007 (Basic)
APPLICATION (CC, No, Date): EP 97121693 971209;
PRIORITY (CC, No, Date): US 832624 970404
DESIGNATED STATES: AT; BE; CH; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI; LU; MC; NL; PT; SE
INTERNATIONAL PATENT CLASS: H04N-017/00; H04N-007/50;
ABSTRACT WORD COUNT: 168

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	9841	950
SPEC A	(English)	9841	8488
Total word count - document A			9438
Total word count - document B			0
Total word count - documents A + B			9438

...SPECIFICATION frame (I, P, or B), and the amount of compressed video data in the various types of frames, the bitstream **quality** analyzer 190 calculates the amount of compressed video data in the compressed video data buffer and updates this calculation each...

...video data buffer and the amount of time the encoder believed a particular frame would be stored within the compressed **video data** buffer before that **compressed data** would be displayed and discarded (based on vbv(underscore)delay), and updates this calculation each frame. Although these two metrics...

...risk of buffer underflow or overflow, and to determine how well the encoder estimated the minimum size required for the **compressed video data** buffer and how well the encoder estimated the amount of time that frames would remain in the **compressed video data** buffer. Furthermore, each one of these metrics of buffer fullness allow one to assess the real-time decodability of the...

...status, the bitstream quality analyzer 190 provides information identifying the type of frame (I, P, or B), the amount of **compressed video data** in each type of frame, and the amount of bit stuffing (used by the encoder to achieve the target frame...

11/3,K/10 (Item 10 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00930515
Subband image encoding method
Teilbandbildkodierungsverfahren
Methode de codage d'image par sous bandes
PATENT ASSIGNEE:
TEXAS INSTRUMENTS INC., (279076), 13500 North Central Expressway, Dallas, Texas 75243, (US),
INVENTOR:
Liang, Jie, 1800 E. Spring Creek Pkwy., N 535, Plano, Texas 75074, (US)
LEGAL REPRESENTATIVE:
Legg, Cyrus James Grahame et al (81121), ABEL & IMRAY, 20 Red Lion Street , London WC1R 4PQ, (GB)
PATENT (CC, No, Kind, Date): EP 848557 A2 980617 (Basic)
EP 848557 A3 980722
APPLICATION (CC, No, Date): EP 97309207 971114;
PRIORITY (CC, No, Date): US 746702 961115
DESIGNATED STATES: AT; BE; CH; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI; LU; MC; NL; PT; SE
INTERNATIONAL PATENT CLASS: H04N-007/26
ABSTRACT WORD COUNT: 26
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	9825	36
SPEC A	(English)	9825	5466
Total word count - document A			5502
Total word count - document B			0
Total word count - documents A + B			5502

...SPECIFICATION dynamically adjusted depending upon the situation. The costs of telephone network bandwidth demand a low-bit-rate transmission. Indeed, very- **lowbit** -rate **video compression finds** use in **multimedia** applications where visual **quality** may be compromised. Figure 5 shows a first preferred embodiment surveillance system, generally denoted by reference numeral 200, as comprising...

...video cameras 202 focussed on stationary background 204 (with occasional moving objects 206 passing in the field of view) plus **video compressor** 208 together with remote storage 210 plus decoder and display 220. Compressor 208 provides compression of the stream of video...

...scene (for example, 30 frames a second with each frame 144 by 176 8-bit monochrome pixels) so that the **data** transmission rate from **compressor** 208 to storage 210 may be very low, for example 22 Kbits per second, while retaining high quality images. System...

11/3,K/11 (Item 11 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00885142
WAVELET BASED DATA COMPRESSION
WAVELET-BASIERTE DATENKOMPRESSION
COMPRESSION DE DONNEES SUR LA BASE D'ONDELETTES
PATENT ASSIGNEE:
Interval Research Corporation, (2003310), Building C, 1801 Page Mill Road , Palo Alto, CA 94304, (US), (Proprietor designated states: all)
INVENTOR:
KOLAROV, Krasimir, D., 2050 Avy Avenue, Menlo Park, CA 94025, (US)
LYNCH, William, C., 3331 Thomas Drive, Palo Alto, CA 94303, (US)
SCHRODER, Peter, 1111 Blanche Street 201, Pasadena, CA 91106, (US)
SWELDENS, Wim, Apartment 2B 23 Euclid Avenue, Summit, NJ 07901, (US)

LEGAL REPRESENTATIVE:
  Schoppe, Fritz, Dipl.-Ing. (55463), Schoppe, Zimmermann & Stockeler
    Patentanwalte Postfach 71 08 67, 81458 Munchen, (DE)
PATENT (CC, No, Kind, Date): EP 883864 A1 981216 (Basic)
                              EP 883864 B1 020904
                              WO 97032281 970904
APPLICATION (CC, No, Date):   EP 97914842 970227; WO 97US3300 970227
PRIORITY (CC, No, Date): US 607388 960227
DESIGNATED STATES: DE; FR; GB
INTERNATIONAL PATENT CLASS: G06T-009/00; G06T-009/40
NOTE:
  No A-document published by EPO
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:
Available Text Language   Update   Word Count
      CLAIMS B (English) 200236   396
      CLAIMS B   (German) 200236   406
      CLAIMS B   (French) 200236   435
      SPEC B   (English) 200236   14825
Total word count - document A   0
Total word count - document B   16062
Total word count - documents A + B 16062

...SPECIFICATION wavelet coefficients.
    In step 319 the error norms for the original data are determined. The
  original data is the image **data** before transformation or **compression** .
  Error norms are used to help evaluate the **quality** of the **compression** .
  For example, the **maximum** and the minimum of the pixel values are
  calculated to evaluate the **quality** . Other error norms calculated
  measure the difference between the original image and the resulting
  image. Mathematically, this means establishing a...

11/3,K/13 (Item 13 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
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00857111
Video compression method and system
Verfahren und System zur Videokompression
Procede et systeme pour la compression video
PATENT ASSIGNEE:
  TEXAS INSTRUMENTS INCORPORATED, (279075), 13510 North Central Expressway,
    Dallas, Texas 75243, (US), (Applicant designated States: all)
INVENTOR:
  Bannon, Thomas J., 5111 Purdue Avenue, Dallas, TX 75209, (US)
  Talluri, Rajendra, 2200 Waterview Parkway, Apt. No. 2222, Richardsons, TX
    75080, (US)
LEGAL REPRESENTATIVE:
  Holt, Michael (50421), Texas Instruments Limited, P.O. Box 5069,
    Northampton NN4 7ZE, (GB)
PATENT (CC, No, Kind, Date): EP 790741 A2 970820 (Basic)
                              EP 790741 A3 000531
APPLICATION (CC, No, Date):   EP 96307760 961025;
PRIORITY (CC, No, Date): US 5971 951027; US 5970 951027; US 8029 951027
DESIGNATED STATES: DE; FR; GB; IT; NL
INTERNATIONAL PATENT CLASS: H04N-007/26; H04N-007/66; H03M-013/00;
  H04N-007/30
ABSTRACT WORD COUNT: 104
NOTE:
  Figure number on first page: 15A 15B

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:
Available Text Language   Update   Word Count
      CLAIMS A (English) 9708W3   987
      SPEC A   (English) 9708W3   11404
Total word count - document A   12391

Total word count - document B 0
Total word count - documents A + B 12391

...SPECIFICATION transmission channel 16 over a suitable transmission medium 22 to a decompression decoder 18. The decompression decoder 18 decompresses the **compressed video** and audio signals and provides the decompressed signals to a video display and speaker 20. Of course, Figure 1 shows...dynamically adjusted depending upon the situation. The costs of telephone network bandwidth demand a low-bit-rate transmission. Indeed, very- **low** -bit-rate **video compression finds** use in **multimedia** applications where visual **quality** may be compromised.
Figure 2 shows a first preferred embodiment surveillance system, generally denoted by reference numeral 200, as comprising...

...video cameras 202 focused on stationary background 204 (with occasional moving objects 206 passing in the field of view) plus **video compressor** 208 together with remote storage 210 plus decoder and display 220. Compressor 208 provides compression of the stream of video...

...scene (for example, 30 frames a second with each frame 176 by 144 8-bit monochrome pixels) so that the **data** transmission rate from **compressor** 208 to storage 210 may be very low, for example 22 Kbits per second, while retaining high quality images. System...

11/3,K/14 (Item 14 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00829291
METHOD AND APPARATUS FOR REDUCING STORAGE REQUIREMENTS FOR DISPLAY DATA
VERFAHREN UND VORRICHTUNG ZUR VERMINDERUNG DES SPEICHERBEDARFS FUR ANZEIGEDATEN
PROCEDE ET SYSTEME POUR REDUIRE LES BESOINS EN MEMOIRE POUR DES DONNEES D'AFFICHAGE
PATENT ASSIGNEE:
ADOBE SYSTEMS INC., (1120814), Building E-1, 1585 Charleston Road, Mountain View California 94039, (US), (Proprietor designated states: all)
INVENTOR:
TYLER, William, B., 25505 Hacienda Place, Carmel, CA 93923, (US)
FOSKETT, Nicholas, J., 801 Church Street 1316, Moutain View, CA 94041, (US)
KONG, Soon, Y., 10597 Felton Way, Cupertino, CA 95014, (US)
FALL, Richard, N., 126 Lowell Avenue, Palo Alto, CA 94301, (US)
GENTILE, Ronald, S., 2421 El Camino 23, Atherton, CA 94027, (US)
LEGAL REPRESENTATIVE:
Wombwell, Francis et al (46021), Potts, Kerr & Co. 15, Hamilton Square, Birkenhead Merseyside CH41 6BR, (GB)
PATENT (CC, No, Kind, Date): EP 834154 A1 980408 (Basic)
EP 834154 A1 990127
EP 834154 B1 030226
WO 96041308 961219
APPLICATION (CC, No, Date): EP 96921460 960607; WO 96US9856 960607
PRIORITY (CC, No, Date): US 484344 950607
DESIGNATED STATES: DE; FR; GB
INTERNATIONAL PATENT CLASS: G06K-015/00; G06T-009/00
NOTE:
No A-document published by EPO
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	200309	1267
CLAIMS B	(German)	200309	1241
CLAIMS B	(French)	200309	1469
SPEC B	(English)	200309	20250

Total word count - document A 0
Total word count - document B 24227

Total word count - documents A + B 24227

...SPECIFICATION overall page characteristics can determine whether similar algorithms are to be used over the entire page to provide a uniform **quality** image, or can **determine** a particular **minimum compression** ratio to be used over the entire page based on the available storage space for the entire page. The process...

...bands and/or regions of the page that have been compressed, and can estimate ratios for bands yet to be **compressed** by examining **data** in collectors and in the band record. For example, a region can be assigned the same compression algorithm as a...

11/3,K/15 (Item 15 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00827459
Method and apparatus for image communication
Verfahren und Vorrichtung fur Bildkommunikation
Procede et appareil pour la communication d'images
PATENT ASSIGNEE:
FUJITSU LIMITED, (211463), 1-1, Kamikodanaka 4-chome, Nakahara-ku, Kawasaki-shi, Kanagawa 211-8588, (JP), (Applicant designated States: all)
INVENTOR:
Nakayama, Mikio, c/o Fujitsu Limited, 1-1, Kamikodanaka 4-chome Nakahara-ku, Kawasaki-shi, Kanagawa 211, (JP)
Kawataka, Miyuki, c/o Fujitsu Limited, 1-1, Kamikodanaka 4-chome Nakahara-ku, Kawasaki-shi, Kanagawa 211, (JP)
Matsumura, Naoya, Fujitsu Advanced Comm. Syst. Ltd, 21-1, Akebonocho 1-chome, Tachikawa-shi, Tokyo 190, (JP)
Takeda, Takayuki, Fujitsu Advanced Comm. Syst. Ltd, 21-1, Akebonocho 1-chome, Tachikawa-shi, Tokyo 190, (JP)
LEGAL REPRESENTATIVE:
Ritter und Edler von Fischern, Bernhard, Dipl.-Ing. et al (9672), Hoffmann Eitle, Patent- und Rechtsanwalte, Arabellastrasse 4, 81925 Munchen, (DE)
PATENT (CC, No, Kind, Date): EP 768798 A2 970416 (Basic)
                              EP 768798 A3 990915
APPLICATION (CC, No, Date):   EP 96116091 961008;
PRIORITY (CC, No, Date): JP 95261903 951009; JP 9686941 960409
DESIGNATED STATES: DE; FR; GB
INTERNATIONAL PATENT CLASS: H04N-007/24
ABSTRACT WORD COUNT: 196
NOTE:
Figure number on first page: 1

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPAB97	4878
SPEC A	(English)	EPAB97	35674
Total word count - document A			40552
Total word count - document B			0
Total word count - documents A + B			40552

...SPECIFICATION fourth amount "d", where the fourth amount "d" is a positive real number larger than the second amount "b", the **compressed** image data amount CD can be controlled to normally vary in the proximity of the aimed value RT, which contributes...

...in proportion to the compressed image data amount CD is employed for the fourth amount "d". Consequently, even if the **compressed image data** amount CD in a calculation cycle exceeds an allowable maximum value, the **compressed image data** amount CD in a next calculation cycle can be controlled to a value lower than the allowable maximum value with

certainty. Consequently, the possibility that the **compressed image data** amount CD may exceed the allowable maximum value can be reduced significantly.

Or, the transmission apparatus may be constructed such...

...value RTup)) for the aimed value RT, and the scaling factor calculation processing section is constructed such that, when the **compressed image data** amount CD is lower than the aimed lower limit value RTdn)), the scaling factor value SF is decreased by the...possibility that the compressed image data amount CD may exceed the allowable range can be reduced significantly and the picture **quality** can be improved significantly.

Alternatively, the transmission apparatus may be constructed such that the threshold value setting section sets in...

...image data amount Rc)) set as the threshold value by the threshold value setting section, processing to transmit only those **compressed data** of an amount equal to or less than the maximum **compressed image data** amount Rc)) and notifies the reception side of the **compressed data** that the **compressed image data** amount CD has exceeded the maximum **compressed image data** amount Rc)), a required buffer amount can be reduced remarkably, which contributes very much to reduction in size and cost...

11/3,K/16 (Item 16 from file: 348)

DIALOG(R)File 348:EUROPEAN PATENTS

00801467

Digital video production system storing twice the same video data along with correlated edit time code information on respective two removable storage media at different rate of compression

Digitalvideo-Produktionssystem mit doppelter Speicherung derselben Videodaten einschliesslich zugehoriger Zeitmarken fur Schnittbearbeitung auf entsprechenden zwei wechselbaren Datentragern und mit jeweils unterschiedlichem Kompressionsgrad

Systeme de production video numerique a double enregistrement de la meme information video, accompagnee de codes de temps pour montage video, sur deux moyens de stockage echangeables respectifs avec taux de compression differents.

PATENT ASSIGNEE:
Washino, Kinya, (1867681), 750 Huyler Street, Teterboro, NJ 07608, (US), (Proprietor designated states: all)
INVENTOR:
WASHINO, Kinya, 750, Huyler Street, Teterboro, NJ 07608, (US)
SCHWAB, Barry, H., 5298 Cedarhurst, West Bloomfield, MI 48322, (US)
LEGAL REPRESENTATIVE:
Naismith, Robert Stewart et al (57811), CRUIKSHANK & FAIRWEATHER 19 Royal Exchange Square, Glasgow, G1 3AE Scotland, (GB)

PATENT (CC, No, Kind, Date): EP 812509 A1 971217 (Basic)
EP 812509 B1 020612
WO 9627263 960906
APPLICATION (CC, No, Date): EP 96908588 960301; WO 96US2779 960301
PRIORITY (CC, No, Date): US 396574 950301
DESIGNATED STATES: DE; FR; GB; NL
INTERNATIONAL PATENT CLASS: H04N-005/76; G11B-027/031
NOTE:
No A-document published by EPO
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	200224	1967
CLAIMS B	(German)	200224	1767
CLAIMS B	(French)	200224	2372
SPEC B	(English)	200224	3970
Total word count - document A			0
Total word count - document B			10076
Total word count - documents A + B			10076

...SPECIFICATION controlling the various storage devices so as to produce highly complicated sequences in a convenient and timely manner. While the **lower - quality** (higher **data - compression** ratio) program materials are utilized only for **determining** the edit points (edit decision list) for the program, the off-line editing system described herein below is capable of producing the final edited version of the program with high-**quality** results in accordance with the preferred embodiment.

The versatility of the system may be further enhanced if planning for the...

11/3,K/17 (Item 17 from file: 348)

00769413

Method and apparatus for multiple quality transaction card images

Verfahren und Vorrichtung zum Speichern von Bildern mit veranderbarer Qualitat auf Transaktionskarten

Methode et appareil pour le stockage d'images a qualite variable pour cartes de transaction

PATENT ASSIGNEE:
EASTMAN KODAK COMPANY, (201212), 343 State Street, Rochester, New York 14650, (US), (applicant designated states: DE;FR;GB)
INVENTOR:
Ray, Lawrence A., c/o Eastman Kodak Co., Patent Legal Staff, 343 State Street, Rochester, New York 14650-2201, (US)
Ellson, Richard N., c/o Eastman Kodak Co., Patent Legal Staff, 343 State Street, Rochester, New York 14650-2201, (US)
LEGAL REPRESENTATIVE:
Lewandowsky, Klaus, Dipl.-Ing. et al (7581), Kodak Aktiengesellschaft, Patentabteilung, 70323 Stuttgart, (DE)

PATENT (CC, No, Kind, Date): EP 721174 A2 960710 (Basic)
EP 721174 A3 990120
APPLICATION (CC, No, Date): EP 95203638 951227;
PRIORITY (CC, No, Date): US 369015 950105
DESIGNATED STATES: DE; FR; GB
INTERNATIONAL PATENT CLASS: G07F-007/10; G07C-009/00;
ABSTRACT WORD COUNT: 169

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPAB96	554
SPEC A	(English)	EPAB96	2867
Total word count - document A			3421
Total word count - document B			0
Total word count - documents A + B			3421

...ABSTRACT A2

The disclosed method for **compressing** an image to be stored on a transaction card at one of a plurality of quality levels performs the steps of: a. providing a number of compression codebooks each corresponding to a quality level of the to be **compressed image data** ; b. determining the quality level of the **compressed image** to be stored on the transaction card; c. determining the compression codebook that best corresponds to the determined quality level of step b; and d. **compressing** the **image** with the determined **compression** codebook. A decompression system is disclosed for processing, the transaction cards having the **compressed image data** stored thereon at one of a plurality of quality levels by, determining the maximum quality level common to the transaction card and the decompression system; and decompressing the **compressed image** data at the above maximum **quality** level. (see image in original document)

11/3,K/33 (Item 14 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00838265 **Image available**
TRANSMARKING, WATERMARK EMBEDDING FUNCTIONS AS RENDERING COMMANDS, AND FEATURE-BASED WATERMARKING OF MULTIMEDIA SIGNALS
TRANSMARQUAGE, FONCTIONS D'INCORPORATION DE FILIGRANE COMME COMMANDES DE RESTITUTION, ET FILIGRANAGE A CARACTERISTIQUES DE SIGNAUX MULTIMEDIA
Patent Applicant/Assignee:
DIGIMARC CORPORATION, 19801 SW 72nd Avenue, Suite 250, Tualatin, OR 97062, US, US (Residence), US (Nationality), (For all designated states except: US)
Patent Applicant/Inventor:
LEVY Kenneth L, 110 NE Cedar Street, Stevenson, WA 98648, US, US (Residence), US (Nationality), (Designated only for: US)
DECKER Stephen K, 2530 Orchard Hill Place, Lake Oswego, OR 97035, US, US (Residence), US (Nationality), (Designated only for: US)
Legal Representative:
MEYER Joel R (agent), Digimarc Corporation, 19801 SW 72nd Avenue, Suite 250, Tualatin, OR 97062, US,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200171960 A1 20010927 (WO 0171960)
Application: WO 2001US8315 20010316 (PCT/WO US0108315)
Priority Application: US 2000190481 20000318; US 2000563664 20000502; US 2000257822 20001221
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: English
Filing Language: English
Fulltext Word Count: 14035

Fulltext Availability:
Detailed Description

Detailed Description
... the signal transformation process selects the embedding method and parameters that adapt the robustness of the embedded watermark and perceptual **quality** of the rendered watermarked signal for the particular rendering process or transmission channel. For example, an audio processor renders a...

...specify that the watermark be embedded as part of the signal formatting process, such as part of the process of **compressing** the **image** , **video** or audio signal. This enables the watermark module to interact with the compression process to embed the watermark so that it is adapted to that format, e.g., embedding in the **compressed** **data** stream or partially **compressed** stream. The compression rate of the signal can be adaptively set by **determining** the **greatest** extent of **compression** where the watennarked signal still survives based on an error detection 1 0 measure. Similarly, the perceptual **quality** parameters may be used to tune the compression process so that the compression rate is selected that maintains the desired perceptual **quality** of the signal and the robustness level of the watermark signal.

Alternatively, the watermark function can specify that the watermark...

11/3,K/34 (Item 15 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT
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00835869 **Image available**
A METHOD AND APPARATUS FOR PERFORMING A CONTRAST BASED DYNAMIC RANGE MANAGEMENT ALGORITHM
PROCEDE ET APPAREIL PERMETTANT D'EXECUTER UN ALGORITHME DE GESTION A PLAGE DYNAMIQUE SE BASANT SUR LE CONTRASTE
Patent Applicant/Assignee:
GENERAL ELECTRIC COMPANY, 1 River Road, Schenectady, NY 12345, US, US (Residence), US (Nationality)
Inventor(s):
LANGAN David Allen, 9 Lincoln Avenue, Clifton Park, NY 12065, US,
HOPPLE Michael Robert, 727 Rankin Avenue, Schenectady, NY 12308, US,
NEVIN Robert Leland, 4 Seneca Road, Schenectady, NY 12309, US,
LIENARD Jean, 155, rue Estienne d'Orves, F-92140 Clamart, FR,
Legal Representative:
BENINATI John F (et al) (agent), General Electric Company, 3135 Easton Turnpike W3C, Fairfield, CT 06431, US,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200169532 A1 20010920 (WO 0169532)
Application: WO 2001US4918 20010215 (PCT/WO US0104918)
Priority Application: US 2000522384 20000310
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
Publication Language: English
Filing Language: English
Fulltext Word Count: 10999

Fulltext Availability:
Detailed Description

Detailed Description
... appropriate setting which best accommodates
5
the dynamic range of a given image, the displayed image may have poor image **quality** . In many cases, this may result in the loss of more high frequency contrast information than is necessary to perform...

...which
adaptively adjusts to the dynamic range of the image, so that high frequency contrast information is preserved, while applying **minimal compression** to display the **image** in a more **deterministic** manner and with reduced complexity.

BRIEF SUMMARY OF THE INVENTION
The invention provides a method, a related memory medium and an apparatus for implementing and performing a contrast-based dynamic range I 0 management (C-DRM) algorithm, to **compress** input **image data** of a broad dynamic range of intensities to a reduced dynamic range (e.g., 256 levels) of an available display...

11/3,K/35 (Item 16 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
(c) 2004 WIPO/Univentio. All rts. reserv.

00807780 **Image available**
METHOD AND APPARATUS FOR PACKET DELAY REDUCTION USING SCHEDULING AND HEADER COMPRESSION
PROCEDE ET APPAREIL POUR LA REDUCTION DU RETARD DE TRANSMISSION DE PAQUETS, DANS LESQUELS L'ORDONNANCEMENT ET LA COMPRESSION D'EN-TETES SONT UTILISES
Patent Applicant/Assignee:
TELEFONAKTIEBOLAGET LM ERICSSON (publ), S-126 25 Stockholm, SE, SE (Residence), SE (Nationality)
Inventor(s):
RAHLEN Simon, Norrskensbacken 15, 4 tr, S-146 46 Tullinge, SE,
OLSSON Gunnar, Bostallsvagen 7, 8 tr, S-147 41 Tumba, SE,

Legal Representative:
MILDH Christer (et al) (agent), Ericsson Radio Systems AB, Ericsson Research/Patent Support Unit, S-164 80 Stockholm, SE,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200141397 A1 20010607 (WO 0141397)
Application: WO 2000SE2187 20001108 (PCT/WO SE0002187)
Priority Application: US 99451081 19991130
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: English
Filing Language: English
Fulltext Word Count: 8116

Fulltext Availability:
Detailed Description

Detailed Description
... are designed to propagate scheduling information to the segments or fragments. Header compression, however, makes IP scheduling difficult. When header **compression** is used, **information** including the **identification** field in the IP header becomes unavailable to **lower** layers after **compression** . If a HC packet is dropped, the resulting missing sequence number at the receiver will cause problems on the link ...dropped and will thus be unable to request the dropped packet from higher layers, introducing further delay and degradation of **quality** .

Therefore, it would be appreciated in the art for a method and apparatus which handles scheduling and reduces the adverse...

11/3,K/36 (Item 17 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
(c) 2004 WIPO/Univentio. All rts. reserv.

00757158 **Image available**
IMAGE ARTIFACT REDUCTION USING MAXIMUM LIKELIHOOD PARAMETER ESTIMATION
REDUCTION DES ARTEFACTS IMAGES UTILISANT DES ESTIMATIONS DE PARAMETRES A VRAISSEMBLANCE MAXIMUM
Patent Applicant/Assignee:
TRUSTEES OF BOSTON UNIVERSITY, 147 Bay State Road, Boston, MA 02215, US, US (Residence), US (Nationality)
Inventor(s):
YANG Seungjoon, 242 Junction Road #23, Madison, WI 53717, US
HU Yu Hen, 1640 Foxridge Court, Middleton, WI 53562, US
NGUYEN Truong Quang, 7 Frothingham Road, Burlington, MA 01803, US
TULL Damon Lee, 20 Saynor Court #44, Madison, WI 53717, US
Legal Representative:
GAGNEBIN Charles L III, Weingarten, Schurgin, Gagnebin & Hayes LLP, Ten Post Office Square, Boston, MA 02109, US
Patent and Priority Information (Country, Number, Date):
Patent: WO 200070548 A1 20001123 (WO 0070548)
Application: WO 2000US12989 20000512 (PCT/WO US0012989)
Priority Application: US 99134155 19990514
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA

UG UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: English
Filing Language: English
Fulltext Word Count: 6722

Fulltext Availability:
Detailed Description

Detailed Description
... It is desirable to obtain an image that is as free of compression-related artifacts as possible, thus improving image **quality** at low bit rates.
An artifact-free image can be **estimated** from the **compressed image** by **maximum** a posteriori (MAP) **estimation** techniques. The problem is to generate an artifact-free estimate f' of an original **image** f given a **compressed image** g. In MAP estimation approaches, the estimate f' is considered to be a random variable whose properties are modeled by...

11/3,K/37 (Item 18 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00753660 **Image available**
SYSTEM AND METHOD TO QUANTIFY APPEARANCE DEFECTS IN MOLDED PLASTIC PARTS
SYSTEME ET PROCEDE POUR QUANTIFIER LES DEFAUTS DE PRESENTATION DANS DES PIECES PLASTIQUES MOULEES
Patent Applicant/Assignee:
GENERAL ELECTRIC COMPANY, 1 River Road, Schenectady, NY 12345, US, US (Residence), US (Nationality)
Inventor(s):
FELDMAN Sandra Freedman, 830 Huntingdon Drive, Niskayuna, NY 12309, US
POSLINSKI Andrew Joseph, 20 Glade Drive, Schenectady, NY 12308, US
HATTI Harsha Mysore, Apartment 302, 1675 Avenue B, Schenectady, NY 12308, US
CANTELLO Craig Alan, Apartment C12C, 2150 Rosa Road, Schenectady, NY 12309, US
CIFARELLI James Louis, Apartment 3, 2146 Rosa Road, Schenectady, NY 12309 , US
YOKOYAMA Kena Kimi, 145 Doorstone Drive, Latham, NY 12110-3709, US
SHIMIGOL Grigoriy Aleksandrovi, 90 Manor Avenue Sites, Cohoes, NY 12047, US
WANG Hua, 1187 Hillside Avenue 2B-21, Niskayuna, NY 12309, US
BARREN James Paul, 150 Horstman Drive, Scotia, NY 12302, US
OSBORN Arthur Joseph, 195 Broome Street, Catskill, NY 12414, US
Legal Representative:
SNYDER Bernard, General Electric Company, 3135 Easton Turnpike W3C, Fairfield, CT 06431, US
Patent and Priority Information (Country, Number, Date):
Patent: WO 200067004 A1 20001109 (WO 0067004)
Application: WO 2000US9489 20000411 (PCT/WO US0009489)
Priority Application: US 99303409 19990503
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
JP SG
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
Publication Language: English
Filing Language: English
Fulltext Word Count: 8167

Fulltext Availability:
Claims

Claim
... plastic through said gate (37).
5 The system of claim 1, wherein said computerized device (101) further compr@ises:
computerized **data compression** means (511) for calculating **compressed data** by filtering out local noise below a predetermined threshold,
from said raw data (50);
computerized first iteration filtering means (512) for calculating first iteration filtered data by **identifying** local extreme points comprising maximum
and **minimum** points in said **compressed data** ;
computefted second iteration filtering means (513) for **calculating**
0 second iteration filtered data by removing from said first iteration filtered data, any of said local extreme points that...

...point on an other side thereof.

6 The system of claim 5, wherein said computerized device (101) further comprises:
computerized **quality** calculation means for calculating (514) and linearizing (515) from said final iteration filtered data graph, a quality number
Q given...

11/3,K/38 (Item 19 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00576660 **Image available**
VIDEO MEMORY MANAGEMENT FOR MPEG VIDEO DECODE AND DISPLAY SYSTEM
GESTION DE MEMOIRE VIDEO POUR SYSTEME DE DECODAGE ET D'AFFICHAGE VIDEO
Patent Applicant/Assignee:
ZORAN CORPORATION,
Inventor(s):
GILL Aharon,
ROSENTHAL Elan,
FRAENKEL Miri,
OFIR Ram,
ANISMAN David,
IRONI Alon,
GOLDBERG Paul R,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200040033 A1 20000706 (WO 0040033)
Application: WO 98US27479 19981223 (PCT/WO US9827479)
Priority Application: WO 98US27479 19981223
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
JP AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
Publication Language: English
Fulltext Word Count: 14908

Fulltext Availability:
Detailed Description

Detailed Description
... diffusion algorithm,, multiple-bits
error diffusion algorithm can be implemented similarly, however, with a tradeoff of loss in perceptible picture
quality ,
The second step of the **video data compression** is the "drop one pixel per quartet" (step 1420). The drop one pixel per quartet algorithm compresses a

quartet of four 7-bits pixels to a 24-bits quartet. The **data compressor calculates** the **best** pixel of a quartet to be dropped and stores the reconstruction method in the last three bits of the quartet...

...will be described later.

When the video data is needed from the video memory, the FlexiRam performs decompression to the **compressed data** read from the memory, The decompression steps are the inverse of the compression steps as shown in Figure 14.

First...

11/3,K/39 (Item 20 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
(c) 2004 WIPO/Univentio. All rts. reserv.

00554357 **Image available**
METHOD OF COMPRESSING AND DECOMPRESSING GRAPHIC IMAGES
PROCEDE DE COMPRESSION ET DE DECOMPRESSION D'IMAGES GRAPHIQUES
Patent Applicant/Assignee:
FUJITSU MICROELECTRONICS INC,
Inventor(s):
OSTROVSKY Alex,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200017730 A2 20000330 (WO 0017730)
Application: WO 99US22081 19990923 (PCT/WO US9922081)
Priority Application: US 98160504 19980924
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
JP KR AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
Publication Language: English
Fulltext Word Count: 9185

Fulltext Availability:
Claims
Claim
... of the red, green, and blue values of all the pixels in the block.

20 A computer-implemented method of **compressing graphics image data** into at **least** one **compressed** block comprising the steps of(A) **computing** a work bit value representing a number of significant bits for each
red, green, blue, and intensity values;
(B) computing a **quality** level value representing a desired level of **quality** of
graphics image data;
(C) reading a block of graphics image data, the block having a plurality of pixels, each...

11/3,K/40 (Item 21 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00526532 **Image available**
DATA COMPRESSION
COMPRESSION DE DONNEES
Patent Applicant/Assignee:
KONINKLIJKE PHILIPS ELECTRONICS N V,
PHILIPS AB,
Inventor(s):
BAILLEUL Nicolas,
Patent and Priority Information (Country, Number, Date):

Patent: WO 9957884 A2 19991111
Application: WO 99IB724 19990422 (PCT/WO IB9900724)
Priority Application: EP 98401053 19980430; EP 98401721 19980707
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
CN JP KR AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
Publication Language: English
Fulltext Word Count: 5868

Fulltext Availability:
Detailed Description

Detailed Description
... allocation.

SUMMARY OF THE INVENTION
It is an object of the invention to provide data compression which yields a better **quality** .

The invention takes the following aspects into consideration. It is advantageous to compress data to such an extent that an...

...of data because the data-handling capacity of the receiving entity is not used to its full extent. If the **data** is **compressed** to a smaller extent, there will also be an unnecessary loss of data because the receiving entity will not be able to handle a certain portion of the **compressed** **data** and, consequently, this portion will be lost. Thus, the quality of the **data** **compression** , in tenns of minimal loss of information, is substantially influenced by a compression parameter determining to which extent the **data** is **compressed** .

The background art cited applies the following principle for adjusting a **compression** parameter in WEG **video** coding. At the beginning of a group of pictures, an initial value of the compression parameter is calculated. The initial value of the compression parameter corresponds to the amount of **compressed** **data** which should preferably be obtained by **compressing** the **data** representing the group of pictures. On the basis of experiences in compressing a previous group of pictures, typical intermediate results are defined in terms of amounts of **compressed** **data** . A typical intermediate result is defined for each successive picture in the group. For each picture, the initial compression parameter ...

11/3,K/41 (Item 22 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00498928 **Image available**
IMPROVED IMAGE CONVERSION AND ENCODING TECHNIQUES
CONVERSION D'IMAGES AMELIOREE ET TECHNIQUES DE CODAGE
Patent Applicant/Assignee:
DYNAMIC DIGITAL DEPTH RESEARCH PTY LTD,
HARMAN Philip Victor,
Inventor(s):
HARMAN Philip Victor,
Patent and Priority Information (Country, Number, Date):
Patent: WO 9930280 A1 19990617
Application: WO 98AU1005 19981203 (PCT/WO AU9801005)
Priority Application: AU 97778 19971205; AU 982865 19980408
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH
GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW
MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZW
GH GM KE LS MW SD SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH CY DE DK

ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
Publication Language: English
Fulltext Word Count: 9872

Fulltext Availability:
Detailed Description

Detailed Description
... the
operator(s) undertake the object manipulation.

6. Since the results of the manipulation result in the object outlines being **identified** , the data for which may be subsequently **compressed** , the **file size** will generally be substantially **smaller** than the original images. This being the case the object information may conveniently be returned to the supervisor 25 using on-line email services.

7. The supervisor undertakes **quality** control on the object outlines received and matches the frame numbers to the original video source material.

8. The supervisor...

11/3,K/42 (Item 23 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00421267 **Image available**
METHOD, APPARATUS AND SYSTEM FOR COMPRESSING DATA
PROCEDE, APPAREIL ET SYSTEME DE COMPRESSION DE DONNEES
Patent Applicant/Assignee:
WDE INC,
ZADOR Andrew Michael,
Inventor(s):
ZADOR Andrew Michael,
Patent and Priority Information (Country, Number, Date):
Patent: WO 9811728 A1 19980319
Application: WO 97CA452 19970625 (PCT/WO CA9700452)
Priority Application: US 96668753 19960624
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE HU IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG US UZ VN GH KE LS MW SD SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN ML MR NE SN TD TG
Publication Language: English
Fulltext Word Count: 20302

English Abstract
An apparatus and method for **image data compression** performs a modified zero-tree coding on a range of absolute image values from the largest to a **determined smaller** absolute value, based upon file **size** or **quality** . If it is desired to maintain more detail in the image, then a vector quantizer codes the remaining values below...

...determined smaller value can be adjusted by examination of the histogram of the tree, or iteratively to meet a preselected **compressed image** size criterion or to meet a predefined level of image **quality** , as determined by any suitable metric. If the **image** to be **compressed** is in RGB color space, the apparatus converts the RGB image to a less redundant color space before commencing further...

15/3,K/1 (Item 1 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

01081862
ESTIMATING GRAPHICS SYSTEM PERFORMANCE FOR POLYGONS
VERFAHREN UND VORRICHTUNG ZUR ABSCHATZUNG DER LEISTUNG EINES GRAFISCHEN SYSTEMS VON POLYGONEN
ESTIMATION DE LA PERFORMANCE D'UN SYSTEME GRAPHIQUE POUR DES POLYGONES
PATENT ASSIGNEE:
SUN MICROSYSTEMS, INC., (1392733), 901 San Antonio Road, Palo Alto, California 94303, (US), (Proprietor designated states: all)
INVENTOR:
DEERING, Michael, F., 657 Cuesta Drive, Los Altos, CA 94024, (US)
LEGAL REPRESENTATIVE:
Harris, Ian Richard (72231), D. Young & Co., 21 New Fetter Lane, London EC4A 1DA, (GB)
PATENT (CC, No, Kind, Date): EP 1055199 A1 001129 (Basic)
EP 1055199 B1 020522
WO 9941704 990819
APPLICATION (CC, No, Date): EP 99907042 990216; WO 99US3227 990216
PRIORITY (CC, No, Date): US 74838 P 980217
DESIGNATED STATES: DE; FR; GB; IE
INTERNATIONAL PATENT CLASS: G06T-015/00
NOTE:
No A-document published by EPO
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	200221	1997
CLAIMS B	(German)	200221	1831
CLAIMS B	(French)	200221	2295
SPEC B	(English)	200221	14716
Total word count - document A			0
Total word count - document B			20839
Total word count - documents A + B			20839

...SPECIFICATION the lower spatial frequency areas that most objects have. This is similar to the statistical argument that successfully lets 2D **image compression** techniques not encode **high frequency energy** at all areas of most images, with few visually perceptible artifacts. Note also that most artifacts of Gouraud shading disappear...

15/3,K/2 (Item 2 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00540013
Image processing
Bildverarbeitung
Traitement d'image
PATENT ASSIGNEE:
CANON KABUSHIKI KAISHA, (542361), 30-2, 3-chome, Shimomaruko, Ohta-ku, Tokyo, (JP), (applicant designated states: DE;FR;GB)
INVENTOR:
Takayama, Makoto, c/o Canon K.K., 30-2, Shimomaruko 3-chome, Ohta-ku, Tokyo, (JP)
LEGAL REPRESENTATIVE:
Beresford, Keith Denis Lewis et al (28273), BERESFORD & Co. 2-5 Warwick Court High Holborn, London WC1R 5DJ, (GB)
PATENT (CC, No, Kind, Date): EP 514167 A2 921119 (Basic)
EP 514167 A3 940216
EP 514167 B1 980812
APPLICATION (CC, No, Date): EP 92304344 920514;
PRIORITY (CC, No, Date): JP 91109999 910515; JP 91110213 910515; JP 91110214 910515; JP 91110215 910515; JP 91110216 910515; JP 91148437 910620

DESIGNATED STATES: DE; FR; GB
INTERNATIONAL PATENT CLASS: H04N-007/30; H04N-005/235; H04N-005/20; H04N-005/21; H04N-005/243;
ABSTRACT WORD COUNT: 137

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	9833	408
CLAIMS B	(German)	9833	373
CLAIMS B	(French)	9833	471
SPEC B	(English)	9833	7653
Total word count - document A			0
Total word count - document B			8905
Total word count - documents A + B			8905

...SPECIFICATION and the coder 107 encodes the output of the quantizer 106 (S47).

After quantization and coding, the completion of an **image compression** is displayed on the ...S48).

In short, according to the present embodiment, in the case where the image level is relatively low and the **high frequency energy** of the image is a considerable amount, the level of the high frequency component is reduced or quantization is performed...

15/3,K/3 (Item 3 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00268764
Multiplex signal processing apparatus.
Verarbeitungseinrichtung fur multiplexe Signale.
Appareil de traitement de signal multiplexe.
PATENT ASSIGNEE:
MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD., (216883), 1006, Oaza Kadoma, Kadoma-shi, Osaka-fu, 571, (JP), (applicant designated states: DE;FR;GB;NL)
INVENTOR:
Kageyama, Sadashi, 11-41-313, Okayamate-cho, Hirakata-shi Osaka-fu, 567, (JP)
Abe, Yoshio, 13-39, 3-Chome Shimohozumi, Ibaraki-shi Osaka-fu, 567, (JP)
Yasumoto, Yoshio, 1899-82, 2-Chome Syoyodai, Nara-shi Nara-ken, 631, (JP)
Inoue, Shuji, Syoei-ryo 30-23, Miyukihigashimach, Neyagawa-Shi Osaka-fu, 572, (JP)
Takai, Hitoshi, Syokei-ryo 7-4-2, Kourigaoka, Hirakata-shi Osaka-fu, 573, (JP)
Matsumoto, Mitsujiro, 1-20, Mita-cho, Shijounawate-shi Osaka-fu, 575, (JP)
Aono, Kouji, c/o Masao HORIO 537, Teizuikamigumi, Saijyo-shi Ehime-ken, 799-11, (JP)
Uchimura, Kiyoshi, 1-24-17, Himurodai, Hirakata-shi Osaka-fu, 573, (JP)
Iwasaki, Eiji, Syoei-ryo 30-23, Miyukihigashimach, Neyagawa-shi Osaka-fu, 572, (JP)
LEGAL REPRESENTATIVE:
Spencer, Graham Easdale et al (36211), A.A. Thornton & CO Northumberland House 303-306, High Holborn, London WC1V 7LE, (GB)
PATENT (CC, No, Kind, Date): EP 253623 A2 880120 (Basic)
EP 253623 A3 881214
EP 253623 B1 930310
APPLICATION (CC, No, Date): EP 87306208 870714;
PRIORITY (CC, No, Date): JP 86164915 860714; JP 86180338 860731; JP 86180333 860731; JP 86231666 860930; JP 86252225 861023
DESIGNATED STATES: DE; FR; GB; NL
INTERNATIONAL PATENT CLASS: H04N-011/00;
ABSTRACT WORD COUNT: 229

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	EPBBF1	3445
CLAIMS B	(German)	EPBBF1	1010
CLAIMS B	(French)	EPBBF1	1555
SPEC B	(English)	EPBBF1	16526
Total word count - document A			0
Total word count - document B			22536
Total word count - documents A + B			22536

...SPECIFICATION by the selectors 146, 147.
The signal expanded in the time-axis is widened in the band when the time- **axis** is **compressed** at the reception side, and therefore the resolution is not lowered even if the aspect ratio becomes larger. The multiplex signal not appearing on the screen of aspect ratio of 4:3, for example, **corresponding to the** information out of both sides of the screen, is nearly canceled in the conventional receiver by synchronous detection using the...

15/3,K/4 (Item 1 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00510352 **Image available**
ESTIMATING GRAPHICS SYSTEM PERFORMANCE FOR POLYGONS
ESTIMATION DE LA PERFORMANCE D'UN SYSTEME GRAPHIQUE POUR DES POLYGONES
Patent Applicant/Assignee:
SUN MICROSYSTEMS INC,
Inventor(s):
DEERING Michael F,
Patent and Priority Information (Country, Number, Date):
Patent: WO 9941704 A1 19990819
Application: WO 99US3227 19990216 (PCT/WO US9903227)
Priority Application: US 9874838 19980217
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZW GH GM KE LS MW SD SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
Publication Language: English
Fulltext Word Count: 17661

Fulltext Availability:
Detailed Description

Detailed Description
... the lower spatial frequency areas that most objects have. This is similar to the statistical argument that successfully lets 2D **image compression** techniques not encode **high frequency energy** at all areas of most images, with few visually perceptible artifacts. Note also that most artifacts of Gouraud shading disappear...

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File   8:Ei Compendex(R) 1970-2004/Aug W3
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Set     Items   Description
S1      75682   COMPRESS?(3N)(IMAGE? ? OR PHOTO? ? OR PHOTOGRAPH? ? OR PIC-
             TURE? ? OR GRAPHIC?? OR MEDIA OR MULTIMEDIA OR VIDEO? ? OR MO-
             VIE? ? OR FILM? ? OR ANIMATION OR ANIMATED OR JPEG OR JPG OR -
             GIF OR TIFF? ? OR BITMAP? ? OR BMP)
S2      76913   COMPRESS?(3N)(CONTENT? ? OR DATA OR INFORMATION OR FILE? ?
             OR DOCUMENT? ? OR ARTICLE? ? OR TEXT? ? OR TEXTUAL OR EMAIL OR
              MAIL OR MESSAGE? ?)
S3      26116   COMPRESS???(3N)(MAXIMUM OR MAXIMAL?? OR BEST OR HIGHEST OR
             GREATEST OR LARGEST OR SMALL??? OR MINIMUM OR MINIMAL OR LOW -
             OR LOWER OR LOWEST OR NOMINAL OR LEAST)
S4     188296   SIZE(5N)(SMALL??? OR MINIMUM OR MINIMAL OR LOW OR LOWER OR
             LOWEST OR NOMINAL OR LEAST)
S5      21226   S3:S4(10N)(DETERMIN? OR ESTIMAT??? OR ASSESS? OR IDENTIF? -
             OR CALCULAT? OR ASCERTAIN? OR FIND??? OR COMPUTE OR COMPUTES -
             OR COMPUTED OR COMPUTING OR GAUG? OR MEASUR? OR DISCERN?)
S6    2464919   WEIGHT??? OR SCOR??? OR GRAD??? OR RATED OR RATING
S7    5429586   HIGH()FREQUENCY()ENERGY OR COMPLEX? OR INTRICA? OR DENSITY
S8    5987969   IMAGE? ? OR PHOTO? ? OR PHOTOGRAPH? ? OR PICTURE? ? OR GRA-
             PHIC?? OR MEDIA OR MULTIMEDIA OR VIDEO? ? OR MOVIE? ? OR FILM?
              ? OR ANIMATION OR ANIMATED
S9      28180   JPEG OR JPG OR GIF OR TIFF? ? OR BITMAP? ? OR BMP
S10       214   S5(10N)QUALITY
S11        30   S1:S2 AND S10
S12        18   RD (unique items)
S13        16   S12 NOT PY=2003:2004
S14     18254   S1 AND QUALITY
S15      1200   S3 AND S14
S16      1625   S6(7N)S8:S9(7N)S7(7N)(DETERMIN? OR ESTIMAT? OR ASSESS? OR -
             IDENTIF???? OR IDENTIFICATION OR CALCULAT? OR ASCERTAIN? OR F-
             IND??? OR COMPUTE OR COMPUTES OR COMPUTED OR COMPUTING OR GAU-
             G? OR MEASUR? OR DISCERN? OR ASSIGN??? OR GIVEN OR GIVING)
S17        36   S1:S2 AND S16
S18        19   RD (unique items)
S19       630   HIGH()FREQUENCY()ENERGY
S20         9   S1:S2 AND S19
S21         7   RD (unique items)
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S22	273	AU=(GETZINGER, T? OR MALVAR, H? OR GETZINGER T? OR MALVAR - H?)
S23	43	S1:S2 AND S22
S24	16	(S7 OR QUALITY) AND S23
S25	10	RD (unique items)

13/5/1 (Item 1 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

06336424 E.I. No: EIP03137413591
Title: A novel rate-distortion analysis framework for JPEG coding
Author: He, Zhihai; Kim, Yong Kwan; Mitra, Sanjit K.
Corporate Source: Dept. of Elec./Computer Engineering University of California, Santa Barbara, CA 93106, United States
Conference Title: Proceedings of the 22nd Picture Coding Symposium: PCS-2001
Conference Location: Seoul, South Korea Conference Date: 20010425-20010427
Sponsor: Korea Institute of Communication Sciences
E.I. Conference No.: 60525
Source: 22nd Picture Coding Symposium 2001.
Publication Year: 2001
Language: English
Document Type: CA; (Conference Article) Treatment: T; (Theoretical); X; (Experimental)
Journal Announcement: 0303W5
Abstract: In this work, by introducing the new concepts of characteristic rate curves and rate curve decomposition, a novel framework for rate-distortion (R-D) analysis is developed. With this framework, we propose a fast algorithm to accurately predict the R-D curve of the **JPEG compression** system before quantization and coding. The proposed algorithm has very low computational complexity. With the estimated R-D curve, we can accurately control the output bit rate and picture **quality** for still **image compression** . To our **best** knowledge, this is the first algorithm which can accurately **estimate** the R-D curve before quantization and coding. 5 Refs.
Descriptors: **Image** coding; **Image compression** ; **Image** quality; Error analysis; Computational complexity; Algorithms
Identifiers: Rate-distortion (R-D) analysis
Classification Codes:
723.2 (Data Processing); 921.6 (Numerical Methods); 721.1 (Computer Theory (Includes Formal Logic, Automata Theory, Switching Theory & Programming Theory))
723 (Computer Software, Data Handling & Applications); 741 (Light, Optics & Optical Devices); 921 (Applied Mathematics); 721 (Computer Circuits & Logic Elements)
72 (COMPUTERS & DATA PROCESSING); 74 (LIGHT & OPTICAL TECHNOLOGY); 92 (ENGINEERING MATHEMATICS)

13/5/2 (Item 2 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

06296854 E.I. No: EIP03077362909
Title: Wavelet based image compression **using subband threshold**
Author: Muzaffar, Tanzeem; Cho, Tae-Sun
Corporate Source: SIPL Mechatronics Department Kwangju Inst. of Sci. and Technology, Puk Gu, Kwangju, South Korea
Conference Title: Applications of Digital Image Processing XXV
Conference Location: Seattle, WA, United States Conference Date: 20020708-20020710
Sponsor: SPIE
E.I. Conference No.: 60678
Source: Proceedings of SPIE - The International Society for Optical Engineering v 4790 2002. p 491-498
Publication Year: 2002
CODEN: PSISDG ISSN: 0277-786X
Language: English
Document Type: CA; (Conference Article) Treatment: T; (Theoretical); X; (Experimental)
Journal Announcement: 0302W3
Abstract: Wavelet based **image compression** has been a focus of

research in recent days. In this paper, we propose a compression technique based on modification of original EZW coding. In this lossy technique, we try to discard less significant information in the image data in order to achieve further **compression** with **minimal** effect on output image **quality** . The algorithm **calculates** weight of each subband and finds the subband with minimum weight in every level. This minimum weight subband in each level, that contributes least effect during image reconstruction, undergoes a threshold process to eliminate low-valued data in it. Zerotree coding is done next on the resultant output for compression. Different values of threshold were applied during experiment to see the effect on **compression** ratio and reconstructed **image** quality. The proposed method results in further increase in compression ratio with negligible loss in image quality. 12 Refs.

Descriptors: **Image compression** ; Wavelet transforms; **Image** coding; Image quality; Image reconstruction; Algorithms; Cosine transforms

Identifiers: Subband threshold; Zerotree coding; Compression ratio; Discrete cosine transform; Discrete wavelet transform

Classification Codes:

723.2 (Data Processing); 921.3 (Mathematical Transformations); 723.5 (Computer Applications)

723 (Computer Software, Data Handling & Applications); 921 (Applied Mathematics)

72 (COMPUTERS & DATA PROCESSING); 92 (ENGINEERING MATHEMATICS)

13/5/3 (Item 3 from file: 8)

DIALOG(R)File 8:Ei Compendex(R)

06245395 E.I. No: EIP02517288912

Title: Video quality assessment using structural distortion measurement

Author: Wang, Zhou; Lu, Ligang; Bovik, Alan C.

Corporate Source: Lab. of Image and Video Eng. Dept. of ECE The Univ. of Texas at Austin, Austin, TX 78703-1084, United States

Conference Title: International Conference on Image Processing (ICIP'02)

Conference Location: Rochester, NY, United States Conference Date: 20020922-20020925

Sponsor: IEEE Signal Processing Society

E.I. Conference No.: 60384

Source: IEEE International Conference on Image Processing v 3 2002. p III/65-III/68 (IEEE cat n 02ch37396)

Publication Year: 2002

CODEN: 85QTAW

Language: English

Document Type: CA; (Conference Article) Treatment: T; (Theoretical)

Journal Announcement: 0212W5

Abstract: Objective image/video quality measures play important roles in various image/video processing applications, such as compression, communication, printing, analysis, registration, restoration and enhancement. Most proposed quality assessment approaches in the literature are error sensitivity-based methods. In this paper, we follow a new philosophy in designing image/video quality metrics, which uses structural distortion as an estimation of perceived visual distortion. We develop a new approach for video quality assessment. Experiments on the video quality experts group (VQEG) test data set shows that the new quality measure has higher correlation with subjective quality measurement than the proposed methods in VQEG's Phase I tests for full-reference video quality assessment. 11 Refs.

Descriptors: **Image quality** ; Image **compression** ; Restoration; **Image** enhancement; **Least** squares approximations; Approximation theory; **Measurement** errors

Identifiers: Video quality assessment; Structural distortion measurement; Video quality experts group

Classification Codes:

723.2 (Data Processing); 921.6 (Numerical Methods)

723 (Computer Software, Data Handling & Applications); 921 (Applied Mathematics); 922 (Statistical Methods)

72 (COMPUTERS & DATA PROCESSING); 92 (ENGINEERING MATHEMATICS)

13/5/4 (Item 4 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

06201050 E.I. No: EIP02467203920
Title: Empirical study of partial decoding for fast browsing of MPEG-2 compressed videos
Author: Jiang, J.; Xia, J.; Hou, C.H.
Corporate Source: University of Bradford, Bradford, United Kingdom
Conference Title: Real-Time Imaging VI
Conference Location: San Jose, CA, United States Conference Date: 20020123-20020124
Sponsor: IS and T; SPIE
E.I. Conference No.: 60155
Source: Proceedings of SPIE - The International Society for Optical Engineering v 4666 2002. p 1-9
Publication Year: 2002
CODEN: PSISDG ISSN: 0277-786X
Language: English
Document Type: CA; (Conference Article) Treatment: T; (Theoretical)
Journal Announcement: 0211W4
Abstract: Following a series of successful launch of MPEG standards on **video compression** , their applications reveal ever increasing needs for their content access without full decompression or in their compressed format. To this end, we further investigated a number of partial decoding schemes to address the issue of efficient **content** access to **compressed video** streams. By controlling the number of DCT coefficients involved in the inverse DCT, a number of partial decoding schemes can be designed featuring fast processing speed and **low computing** cost. By controlling the **size** of video frames, visually perceptual **quality** can be adjusted to suit various application including thumbnail image browsing, low resolution image processing, head tracking, skin detection, face recognition, and object segmentation etc. where full resolution frames are often not necessarily required. While achieving improved computing cost and processing speed, our work also features in: (i) reasonably good image quality for content browsing; (ii) compatibility with original MPEG-2 bit streams; and (iii) enormous potential for further application of MPEG-2 in video content management, content-based **video** frame retrieval, **compressed video** editing, and low bit-rate video communication such as those involving mobile phones and telephone networks etc. In addition, extensive experiments were carried out and reported to support our design. 10 Refs.
Descriptors: **Image compression** ; Decoding; **Content** based retrieval; Image quality; Cosine transforms; Image enhancement; Algorithms; Image communication systems; Standards
Identifiers: Partial decoding; Moving **Pictures** Experts Group; **Compressed video content** access
Classification Codes:
723.2 (Data Processing); 921.3 (Mathematical Transformations); 723.1 (Computer Programming); 716.4 (Television Systems & Equipment); 902.2 (Codes & Standards)
723 (Computer Software, Data Handling & Applications); 921 (Applied Mathematics); 716 (Electronic Equipment, Radar, Radio & Television); 902 (Engineering Graphics; Engineering Standards; Patents)
72 (COMPUTERS & DATA PROCESSING); 92 (ENGINEERING MATHEMATICS); 71 (ELECTRONICS & COMMUNICATION ENGINEERING); 90 (ENGINEERING, GENERAL)

13/5/5 (Item 5 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

05939865 E.I. No: EIP01466727820
Title: Measurement of visual impairment scales for digital video
Author: Watson, A.B.; Kreslake, L.
Corporate Source: NASA Ames Research Center, Moffett Field, CA

94035-1000, United States
Conference Title: Human Vision and Electronic Imaging VI
Conference Location: San Jose, CA, United States Conference Date: 20010122-20010125
Sponsor: SPIE
E.I. Conference No.: 58669
Source: Proceedings of SPIE - The International Society for Optical Engineering v 4299 2001. p 79-89
Publication Year: 2001
CODEN: PSISDG ISSN: 0277-786X
Language: English
Document Type: CA; (Conference Article) Treatment: T; (Theoretical); X; (Experimental)
Journal Announcement: 0111W4
Abstract: A method for estimating subjective visual impairment of digital video in terms of a scale of perceived impairment measured in units of just-noticeable-difference (JND) was presented. The efficient adaptive scale estimation method was found to be reliable for measurement of impairment scales and JNDs for processed video sequences. The use of JND measurements for creation of calibrated artifact samples and testing and calibration of video quality models was demonstrated. (Edited abstract) 11 Refs.
Descriptors: Image **quality** ; Video signal processing; Vision; **Image compression** ; **Maximum** likelihood **estimation** ; Mathematical models
Identifiers: Visual impairment
Classification Codes:
716.4 (Television Systems & Equipment); 741.2 (Vision)
741 (Light, Optics & Optical Devices); 716 (Electronic Equipment, Radar, Radio & Television); 922 (Statistical Methods); 921 (Applied Mathematics)
74 (LIGHT & OPTICAL TECHNOLOGY); 71 (ELECTRONICS & COMMUNICATION ENGINEERING); 92 (ENGINEERING MATHEMATICS)

13/5/6 (Item 6 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

05896697 E.I. No: EIP01406668792
Title: Maximum-likelihood parameter estimation for image ringing-artifact removal
Author: Yang, S.; Hu, Y.-H.; Nguyen, T.Q.; Tull, D.L.
Corporate Source: Dept. of Electrical and Comp. Eng. University of Wisconsin-Madison, Madison, WI 53706, United States
Source: IEEE Transactions on Circuits and Systems for Video Technology v 11 n 8 August 2001. p 963-973
Publication Year: 2001
CODEN: ITCTEM ISSN: 1051-8215
Language: English
Document Type: JA; (Journal Article) Treatment: A; (Applications); T; (Theoretical); X; (Experimental)
Journal Announcement: 0110W1
Abstract: At low bit rates, **image compression** codecs based on overlapping transforms introduce spurious oscillations known as ringing artifacts in the vicinity of major edges. Unlike previous works, we present a maximum-likelihood approach to the ringing-artifact removal problem. Our approach employs a parameter-estimation method based on the k-means algorithm with the number of clusters determined by a cluster-separation measure. The proposed algorithm and its simplified approximation are applied to JPEG2000 **compressed images** . Our results show effective and efficient removal of ringing artifacts. 23 Refs.
Descriptors: **Image compression** ; Parameter **estimation** ; **Maximum** likelihood **estimation** ; Algorithms; Approximation theory; Image **quality** ; Mathematical models
Identifiers: Image ringing-artifact removal; K-means algorithm; Joint Photographic Experts Group; Cluster-separation measure; Hierarchical clustering algorithm
Classification Codes:

741.1 (Light & Optics); 921.6 (Numerical Methods)
741 (Light, Optics & Optical Devices); 922 (Statistical Methods); 921 (Applied Mathematics)
74 (LIGHT & OPTICAL TECHNOLOGY); 92 (ENGINEERING MATHEMATICS)

13/5/7 (Item 7 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

05878529 E.I. No: EIP01346627866
Title: Foveated video compression **with optimal rate control**
Author: Lee, S.; Pattichis, M.S.; Bovik, A.C.
Corporate Source: Bell Laboratories Lucent Technologies, Murray Hill, NJ 07974, United States
Source: IEEE Transactions on Image Processing v 10 n 7 July 2001. p 977-992
Publication Year: 2001
CODEN: IIPRE4 ISSN: 1057-7149
Language: English
Document Type: JA; (Journal Article) Treatment: T; (Theoretical)
Journal Announcement: 0108W4
Abstract: Recently, foveated **video compression** algorithms have been proposed which, in certain applications, deliver high-quality video at reduced bit rates by seeking to match the nonuniform sampling of the human retina. We describe such a framework here where foveated video is created by a nonuniform filtering scheme that increases the **compressibility** of the **video** stream. We maximize a new foveal visual **quality** metric, the foveal signal-to-noise ratio (FSNR) to **determine** the **best compression** and rate control parameters for a given target bit rate. Specifically, we establish a new optimal rate control algorithm for maximizing the FSNR using a Lagrange multiplier method defined on a curvilinear coordinate system. For optimal rate control, we also develop a piecewise R-D (rate-distortion)/R-Q (rate-quantization) model. A fast algorithm for searching for an optimal Lagrange multiplier lambda* is subsequently presented. For the new models, we show how the reconstructed video quality is affected, where the FPSNR is maximized, and demonstrate the coding performance for H.263,+,++/MPEG-4 video coding. For H.263/MPEG video coding, a suboptimal rate control algorithm is developed for fast, high-performance applications. In the simulations, we compare the reconstructed pictures obtained using optimal rate control methods for foveated and normal video. We show that foveated video coding using the suboptimal rate control algorithm delivers excellent performance under 64 kb/s. 30 Refs.
Descriptors: **Image compression** ; Algorithms; **Image** quality; Signal filtering and prediction; Signal to noise ratio; Bit error rate; Lagrange multipliers; Piecewise linear techniques; Image reconstruction; Image coding; Computer simulation; Digital devices
Identifiers: Foveated **video compression** ; Optimal rate control; Human retina; Foveal signal to noise ratio; Curvi-linear coordinate system
Classification Codes:
723.2 (Data Processing); 921.6 (Numerical Methods); 741.1 (Light & Optics); 716.1 (Information & Communication Theory); 723.1 (Computer Programming); 921.4 (Combinatorial Mathematics, Includes Graph Theory, Set Theory)
723 (Computer Software, Data Handling & Applications); 921 (Applied Mathematics); 741 (Light, Optics & Optical Devices); 716 (Electronic Equipment, Radar, Radio & Television)
72 (COMPUTERS & DATA PROCESSING); 92 (ENGINEERING MATHEMATICS); 74 (LIGHT & OPTICAL TECHNOLOGY); 71 (ELECTRONICS & COMMUNICATION ENGINEERING)

13/5/8 (Item 8 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

05663776 E.I. No: EIP00095339162
Title: Soft computing and hyperspectral video for background extraction

Author: Jannson, Tomasz; Shnitser, Paul; Sandomirsky, Sergey; Kostrzewski, Andrew; Ro, Sookwang
Corporate Source: Physical Optics Corp, Torrance, CA, USA
Conference Title: Target and Backgrounds VI: Characterization, Visualization, and the Detection Process
Conference Location: Orlando, FL, USA Conference Date: 19000424-19000426
Sponsor: SPIE
E.I. Conference No.: 57307
Source: Proceedings of SPIE - The International Society for Optical Engineering v 4029 2000. Society of Photo-Optical Instrumentation Engineers, Bellingham, WA, USA. p 347-355
Publication Year: 2000
CODEN: PSISDG ISSN: 0277-786X
Language: English
Document Type: CA; (Conference Article) Treatment: T; (Theoretical)
Journal Announcement: 0011W2
Abstract: This paper presents experimental results of hyperspectral **image compression** by means of soft computing. Compression and transmission of hyperspectral data requires intensive computation and sophisticated processing that have been incompatible with on-board real-time operation. Soft computing with intelligent processing optimizes the compression parameters of MPEG 1, tuning them to the specific video content to deliver the **highest** hyperspectral **video compression quality** . This soft **computing** approach is compared with compression based on wavelet transform. (Author abstract) 1 Refs.
Descriptors: Feature extraction; **Image compression** ; Real time systems ; **Image** analysis; Image quality; Wavelet transforms
Identifiers: Hyperspectral imaging; Soft computing
Classification Codes:
741.1 (Light/Optics); 723.2 (Data Processing); 722.4 (Digital Computers & Systems); 921.3 (Mathematical Transformations)
741 (Optics & Optical Devices); 723 (Computer Software); 722 (Computer Hardware); 921 (Applied Mathematics)
74 (OPTICAL TECHNOLOGY); 72 (COMPUTERS & DATA PROCESSING); 92 (ENGINEERING MATHEMATICS)

13/5/9 (Item 9 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

05382936 E.I. No: EIP99104832661
Title: Extending the phase gradient autofocus algorithm for low-altitude stripmap mode SAR
Author: Thompson, Douglas G.; Bates, James S.; Arnold, David V.
Corporate Source: Brigham Young Univ, Provo, UT, USA
Conference Title: Proceedings of the 1999 11th IEEE/AESS Radar Conference -Radar Into the Next Millennium
Conference Location: Waltham, MA, USA Conference Date: 19990420-19990422
Sponsor: IEEE Boston Section; IEEE Aerospace and Electrical Systems Society
E.I. Conference No.: 55366
Source: IEEE National Radar Conference - Proceedings 1999. p 36-40
Publication Year: 1999
CODEN: RINRFQ
Language: English
Document Type: JA; (Journal Article) Treatment: T; (Theoretical)
Journal Announcement: 9911W3
Abstract: The Phase Gradient Autofocus (PGA) algorithm has been widely used in Spotlight Synthetic Aperture Radar (SAR) to remove motion-induced blurs in the images. The PGA algorithm has been proven to be a superior autofocus method. This algorithm is extended for application to low-altitude stripmap mode SAR. PGA assumes a narrow beam, which is valid for most SAR systems. However, lower altitude SARs have large range dependencies that cannot be ignored. A new phase estimator for PGA is introduced and extended to allow range dependence. Three SAR images with

different characteristics are used in simulations comparing the new estimator to the widely used maximum likelihood approach and in demonstrating the range-dependent PGA algorithm. The PGA algorithm is also extended to stripmap mode SAR **data** through a new **compression** method. (Author abstract) 7 Refs.

Descriptors: Synthetic aperture radar; Algorithms; Radar imaging; Image **quality** ; Computer simulation; **Image compression** ; **Maximum** likelihood **estimation** ; Radar systems

Identifiers: Phase gradient autofocus algorithm; Motion induced blurs; Stripmap mode; Phase estimator

Classification Codes:

716.2 (Radar Systems & Equipment); 723.5 (Computer Applications); 723.2 (Data Processing); 922.2 (Mathematical Statistics)

716 (Radar, Radio & TV Electronic Equipment); 723 (Computer Software); 922 (Statistical Methods)

71 (ELECTRONICS & COMMUNICATIONS); 72 (COMPUTERS & DATA PROCESSING); 92 (ENGINEERING MATHEMATICS)

13/5/10 (Item 10 from file: 8)

04454308 E.I. No: EIP95052693537

Title: Psychophysical evaluation of the effect of JPEG, full-frame DCT and wavelet image compression **on signal detection in medical image noise**

Author: Eckstein, Miguel P.; Morioka, Craig A.; Whiting, James S.; Eigler, Neal

Corporate Source: Cedars-Sinai Medical Cent. and Univ. of California/Los Angeles, Los Angeles, CA, USA

Conference Title: Medical Imaging 1995: Image Perception

Conference Location: San Diego, CA, USA

Sponsor: SPIE - Int Soc for Opt Engineering, Bellingham, WA USA

E.I. Conference No.: 22244

Source: Proceedings of SPIE - The International Society for Optical Engineering v 2436 1995. Society of Photo-Optical Instrumentation Engineers, Bellingham, WA, USA. p 79-89

Publication Year: 1995

CODEN: PSISDG ISSN: 0277-786X ISBN: 0-8194-1784-X

Language: English

Document Type: CA; (Conference Article) Treatment: T; (Theoretical)

Journal Announcement: 9609W3

Abstract: Image quality associated with **image compression** has been either arbitrarily evaluated through visual inspection, loosely defined in terms of some subjective criteria such as image sharpness or blockiness, or measured by arbitrary measures such as the mean square error between the uncompressed and **compressed image** . The present paper psychophysically evaluated the effect of three different **compression** algorithms (**JPEG** , full-frame, and wavelet) on human visual detection of computer-simulated low-contrast lesions embedded in real medical image noise from patient coronary angiogram. Performance identifying the signal present location as measure by d prime index of detectability decreased for all three algorithms by approximately 30% and 62% for the 16:1 and 30:1 compression rations respectively. We evaluated the ability of two previously proposed measures of image quality, mean square error (MSE) and normalized nearest neighbor difference (NNND), to **determine** the **best compression** algorithm. The MSE predicted significantly higher image **quality** for the JPEG algorithm in the 16:1 compression ratio and for both JPEG and full-frame for the 30:1 compression ratio. The NNND predicted significantly high image quality for the full-frame algorithm for both compassion rations. These findings suggest that these two measures of image quality may lead to erroneous conclusions in evaluations and/or optimizations if **image compression** algorithms. 27 Refs.

Descriptors: Medical imaging; Spurious signal noise; **Image compression** ; Psychophysiology; Mathematical transformations; Evaluation; Signal detection; Image quality; Inspection; Visualization

Identifiers: JPEG; Discrete cosine transform; Wavelet images

Classification Codes:
913.3.1 (Inspection)
461.6 (Medicine); 741.1 (Light/Optics); 921.3 (Mathematical Transformations); 913.3 (Quality Assurance & Control); 723.1 (Computer Programming); 741.2 (Vision)
461 (Biotechnology); 741 (Optics & Optical Devices); 921 (Applied Mathematics); 913 (Production Planning & Control); 723 (Computer Software)
46 (BIOENGINEERING); 74 (OPTICAL TECHNOLOGY); 92 (ENGINEERING MATHEMATICS); 91 (ENGINEERING MANAGEMENT); 72 (COMPUTERS & DATA PROCESSING)

13/5/11 (Item 11 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

04319524 E.I. No: EIP95082824330
Title: Very low bit rate data compression using a quality measure based on target detection performance
Author: Nahm, Jin W.; Smith, Mark J.
Corporate Source: Georgia Inst. of Technology, Atlanta, GA, USA
Conference Title: Signal Processing, Sensor Fusion, and Target Recognition IV
Conference Location: Orlando, FL, USA Conference Date: 19950417-19950419
Sponsor: SPIE - Int Soc for Opt Engineering, Bellingham, WA USA
E.I. Conference No.: 22322
Source: Proceedings of SPIE - The International Society for Optical Engineering v 2484 1995. Society of Photo-Optical Instrumentation Engineers, Bellingham, WA, USA. p 246-255
Publication Year: 1995
CODEN: PSISDG ISSN: 0277-786X ISBN: 0-8194-1837-4
Language: English
Document Type: CA; (Conference Article) Treatment: T; (Theoretical); A; (Applications)
Journal Announcement: 9602W4
Abstract: **Compression** of sensor **data** is important for transmission and storage of digital infrared and SAR images. For speed and economy, one would like to achieve the highest compression ratios possible while preserving the critical information in the images, i.e., target **information** . Conventional **compression** methods such as **JPEG** , subband coding, fractal coding methods, and the like are tailored to optimizing the reconstructed output to achieve the most subjectively pleasing images possible. Their goal is to make the reconstructed images look as close to the original as possible. In the defense industry ATR paradigm, this is not the relevant optimality criterion. Rather it is preservation of target detection and recognition performance, a concept which is somewhat new in the compression community. In this paper we report on a compression strategy based on subband coding and vector quantization that can achieve compression ratios in excess of 250 to 1, while maintaining high levels of detection/recognition accuracy. 12 Refs.
Descriptors: **Data compression** ; Sensors; Pattern recognition; Military applications; Performance; Vector quantization
Identifiers: Very low bit rate data; Target detection; Recognition performance; Subband coding; Compression ratios
Classification Codes:
723.2 (Data Processing); 404.1 (Military Engineering); 921.1 (Algebra)
723 (Computer Software); 741 (Optics & Optical Devices); 404 (Military Engineering); 921 (Applied Mathematics)
72 (COMPUTERS & DATA PROCESSING); 74 (OPTICAL TECHNOLOGY); 92 (ENGINEERING MATHEMATICS)

13/5/12 (Item 12 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

04180042 E.I. No: EIP95022570227
Title: Fractal-based hybrid compression schemes
Author: Ratnakar, Viresh; Feig, Ephraim; Tiwari, Prasoon
Corporate Source: Univ. of Wisconsin/Madison, Madison, WI, USA
Conference Title: Visual Communications and Image Processing '94
Conference Location: Chicago, IL, USA Conference Date: 19940925-19940929
Sponsor: SPIE - Int Soc for Opt Engineering, Bellingham, WA USA; IEEE Circuits and Systems Soc.; European Assoc. for Signal Processing (EURASIP); Optical Soc. of America (OSA)
E.I. Conference No.: 22058
Source: Proceedings of SPIE - The International Society for Optical Engineering v 2308 n p 1 1994. p 448-454
Publication Year: 1994
CODEN: PSISDG ISSN: 0277-786X ISBN: 0-8194-1638-X
Language: English
Document Type: JA; (Journal Article) Treatment: A; (Applications); T; (Theoretical); X; (Experimental)
Journal Announcement: 9508W1
Abstract: Fractal compression has not lived up to its promise as a high-**quality** **low** bit-rate **image** **compression** scheme. The existing algorithms for **finding** self-mapping contractive transforms for images are computationally expensive and offer a poor rate-quality tradeoff. In this paper we explore the error images resulting from a simple fractal compression scheme. We use a set of fractal maps as a predictor for the image, and store the error-image using the Discrete Cosine Transform (DCT). Our experiments show that such a composite scheme has worse rate-quality tradeoff than DCT alone. 6 Refs.
Descriptors: **Image** **compression** ; Fractals; **Image** quality; Mathematical transformations
Identifiers: Fractal **compression** ; Discrete cosine transforms; **Video** **compression**
Classification Codes:
741.3 (Optical Devices & Systems); 723.5 (Computer Applications); 921.3 (Mathematical Transformations)
741 (Optics & Optical Devices); 723 (Computer Software); 921 (Applied Mathematics)
74 (OPTICAL TECHNOLOGY); 72 (COMPUTERS & DATA PROCESSING); 92 (ENGINEERING MATHEMATICS)

13/5/13 (Item 13 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

02955333 E.I. Monthly No: EI9009111734
Title: Tree-structured scene adaptive coder.
Author: Strobach, Peter
Corporate Source: Siemens AG, Muenchen, West Ger
Source: IEEE Transactions on Communications v 38 n 4 Apr 1990 p 477-486
Publication Year: 1990
CODEN: IECMBT ISSN: 0096-1965
Language: English
Document Type: JA; (Journal Article) Treatment: T; (Theoretical); X; (Experimental); L; (Literature Review/Bibliography)
Journal Announcement: 9009
Abstract: A new type of scene adaptive coder has been developed. It involves a quadtree mean decomposition of the motion-compensated frame-to-frame difference signal followed by a scalar quantization of the local means. As a fundamental property, the new coding algorithm treats the displacement estimation problem and the quadtree construction problem as a unit. The displacement vector and the related quadtree are jointly optimized in order to minimize the direct frame-to-frame update information rate (in bits), which turns up as a new and more adequate cost function in displacement **estimation** . This guarantees the **highest** possible **data** **compression** ratio at a given **quality** threshold. Excellent results have been obtained for coding of color image sequences at a rate of 64 kb/s. The quadtree concept entails a much lower computational complexity compared to

the conventional motion-compensated transform coder while achieving a subjective image quality that is as good or better than that of the traditional transform-based counterpart. 31 Refs.
Descriptors: TELEVISION; SIGNAL PROCESSING--Signal Encoding; DIGITAL COMMUNICATION SYSTEMS; INFORMATION THEORY-- **Data Compression ; IMAGE** PROCESSING--Image Coding; PULSE CODE MODULATION
Identifiers: SCENE ADAPTIVE CODER; MOTION ESTIMATION; MOTION-COMPENSATED TRANSFORM CODER; DIFFERENCE PCM; QSDPCM ALGORITHM
Classification Codes:
716 (Radar, Radio & TV Electronic Equipment); 731 (Automatic Control Principles); 723 (Computer Software); 741 (Optics & Optical Devices)
71 (ELECTRONICS & COMMUNICATIONS); 73 (CONTROL ENGINEERING); 72 (COMPUTERS & DATA PROCESSING); 74 (OPTICAL TECHNOLOGY)

13/5/14 (Item 1 from file: 2)
DIALOG(R)File 2:INSPEC

7086834 INSPEC Abstract Number: B2001-12-6135C-087, C2001-12-5260D-047
Title: Hardware-oriented region based algorithm for low power motion estimation
Author(s): Fermo, A.; Sicuranza, G.L.; Pahor, V.
Author Affiliation: Dipartimento di Elettrotecnica Elettronica ed Inf., Trieste Univ., Italy
Conference Title: ISPA 2001. Proceedings of the 2nd International Symposium on Image and Signal Processing and Analysis. In conjunction with 23rd International Conference on Information Technology Interfaces (IEEE Cat. No.01EX480) p.283-8
Editor(s): Loncaric, S.; Babic, H.
Publisher: Univ. Zagreb, Zagreb, Croatia
Publication Date: 2001 Country of Publication: Croatia xii+665 pp.
ISBN: 953 96769 4 0 Material Identity Number: XX-2001-01475
Conference Title: ISPA 2001. Proceedings of the 2nd International Symposium on Image and Signal Processing and Analysis
Conference Sponsor: IEEE Region 8; EURASIP
Conference Date: 19-21 June 2001 Conference Location: Pula, Croatia
Language: English Document Type: Conference Paper (PA)
Treatment: Practical (P)
Abstract: Motion **estimation** is a fundamental step for high quality, **low** bandwidth **video compression** . Recently, the MPEG-4 group has proposed some low complexity algorithms. They have the same performance in term of PSNR as the full search algorithm, but at the same time the complexity is dramatically reduced. However it is difficult to realize these algorithms with conventional hardware structures. Here we present another algorithm with similar performance, but that is realizable with a simpler hardware structure. (9 Refs)
Subfile: B C
Descriptors: computational complexity; **data compression** ; motion estimation; video coding
Identifiers: hardware-oriented region based algorithm; low power motion estimation; high-quality low-bandwidth **video compression** ; MPEG-4 group; low complexity algorithms; PSNR; full search algorithm
Class Codes: B6135C (Image and video coding); C5260D (Video signal processing)

13/5/15 (Item 2 from file: 2)
DIALOG(R)File 2:INSPEC

6983006 INSPEC Abstract Number: B2001-08-6135C-090, C2001-08-5260D-043
Title: Foveated video compression **with optimal rate control**
Author(s): Sanghoon Lee; Pattichis, M.S.; Bovik, A.C.
Author Affiliation: Lucent Technol. Bell Labs., Murray Hill, NJ, USA
Journal: IEEE Transactions on Image Processing vol.10, no.7 p. 977-92

Publisher: IEEE,
Publication Date: July 2001 Country of Publication: USA
CODEN: IIPRE4 ISSN: 1057-7149
SICI: 1057-7149(200107)10:7L.977:FVCW;1-H
Material Identity Number: O939-2001-007
U.S. Copyright Clearance Center Code: 1057-7149/2001/$10.00
Document Number: S1057-7149(01)05446-X
Language: English Document Type: Journal Paper (JP)
Treatment: Theoretical (T)

Abstract: Previously, fovcated **video compression** algorithms have been proposed which, in certain applications, deliver high-quality video at reduced bit rates by seeking to match the nonuniform sampling of the human retina. We describe such a framework here where foveated video is created by a nonuniform filtering scheme that increases the **compressibility** of the **video** stream. We maximize a new foveal visual **quality** metric. the foveal signal-to-noise ratio (FSNR) to **determine** the **best compression** and rate control parameters for a given target bit rate. Specifically, we establish a new optimal rate control algorithm for maximizing the FSNR using a Lagrange multiplier method defined on a curvilinear coordinate system. For optimal rate control, we also develop a piecewise R-D (rate-distortion)/R-Q (rate-quantization) model. A fast algorithm for searching for an optimal Lagrange multiplier lambda * is subsequently presented. For the new models, we show how the reconstructed video quality is affected, where the FSNR is maximized, and demonstrate the coding performance for H.263,+,++/MPEG-4 video coding. For H.263/MPEG video coding, a suboptimal rate control algorithm is developed for fast, high-performance applications. In the simulations, we compare the reconstructed pictures obtained using optimal rate control methods for foveated and normal video. We show that foveated video coding using the suboptimal rate control algorithm delivers excellent performance under 64 kb/s. (20 Refs)

Subfile: B C

Descriptors: **data compression** ; low-pass filters; rate distortion theory; variable rate codes; video coding

Identifiers: foveated **video compression** ; optimal rate control; nonuniform sampling; nonuniform filtering scheme; compressibility; video stream; foveal visual quality metric; foveal signal-to-noise ratio; FSNR; Lagrange multiplier method; curvilinear coordinate system; piecewise rate-distortion/rate-quantization model; search; optimal Lagrange multiplier; video quality; H.263; MPEG-4 video coding; H.263/MPEG video coding; suboptimal rate control algorithm

Class Codes: B6135C (Image and video coding); B6140B (Filtering methods in signal processing); C5260D (Video signal processing)

13/5/16 (Item 3 from file: 2)
DIALOG(R)File 2:INSPEC

5201939 INSPEC Abstract Number: B9604-6430-007, C9604-7410F-063

Title: Influence of the bus architecture on the picture quality in nonlinear editing systems

Author(s): Schmidt, U.
Author Affiliation: Miro Comput. Products AG, Brunswick, Germany
Journal: Fernseh- und Kino-Technik vol.49, no.12 p.735-7
Publisher: Huthig,
Publication Date: Dec. 1995 Country of Publication: West Germany
CODEN: FNKTAH ISSN: 0015-0142
SICI: 0015-0142(199512)49:12L.735:IAPQ;1-C
Material Identity Number: F033-96001
Language: German Document Type: Journal Paper (JP)
Treatment: Applications (A)

Abstract: Nonlinear editing systems use hard discs for storage of **compressed image data** . The **data** transmission rate between codec and hard disc **determines** the **minimum compression** factor and hence the best achievable picture **quality** . This contribution investigates the influence of ISA and PCI bus architectures on the data rate in systems with

18/5/2 (Item 2 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

05960296 E.I. No: EIP01526773083
Title: An alternative complexity model for the MPEG-4 video verifier mechanism
Author: Valentim, J.; Nunes, P.; Pereira, F.
Corporate Source: Instituto Superior Tecnico (IS) Instituto de Telecommunicacoes, 1049-001 Lisboa, Portugal
Conference Title: IEEE International Conference on Image Processing (ICIP) 2001
Conference Location: Thessaloniki, Greece Conference Date: 20011007-20011010
Sponsor: IEEE
E.I. Conference No.: 58800
Source: IEEE International Conference on Image Processing v 1 2001. p 461-464 (IEEE cat n 01CH37205)
Publication Year: 2001
CODEN: 85QTAW
Language: English
Document Type: CA; (Conference Article) Treatment: T; (Theoretical); X; (Experimental)
Journal Announcement: 0112W5
Abstract: MPEG-4 is the first object-based audiovisual coding standard. To control the minimum decoding **complexity** resources required at the decoder, the MPEG-4 Visual standard defines the so-called **Video Complexity** Verifier (VCV). This paper proposes an alternative VCV model, based on a set of relative macroblock (MB) **complexity weights assigned** to the various MB coding types used in MPEG-4 **video** coding. The New VCV model allows a more efficient use of the available decoding resources by preventing the over-evaluation of the decoding complexity of certain MB types and thus making possible to encode scenes (for the same profile@level decoding resources) which otherwise would be considered too requiring. 4 Refs.
Descriptors: **Video** signal processing; **Image compression ; Image** coding; Computational complexity; Data structures; Decoding; Object recognition; Visualization
Identifiers: Video complexity verifier; Motion picture experts group; Audiovisual coding standard; Decoding complexity; Macroblock complexity
Classification Codes:
716.4 (Television Systems & Equipment); 723.2 (Data Processing); 721.1 (Computer Theory (Includes Formal Logic, Automata Theory, Switching Theory & Programming Theory)); 723.5 (Computer Applications)
716 (Electronic Equipment, Radar, Radio & Television); 723 (Computer Software, Data Handling & Applications); 721 (Computer Circuits & Logic Elements)
71 (ELECTRONICS & COMMUNICATION ENGINEERING); 72 (COMPUTERS & DATA PROCESSING)

18/5/6 (Item 6 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

04306508 E.I. No: EIP95122954544
Title: Low-power video decoder with power, memory, bandwidth and quality scalability
Author: Chaddha, Navin; Meng, Teresa H.Y.
Corporate Source: Stanford Univ, Stanford, CA, USA
Conference Title: Proceedings of the 1995 IEEE Workshop on VLSI Signal Processing
Conference Location: Osaka, Jpn Conference Date: 19951016-19951018
E.I. Conference No.: 44054
Source: IEEE Workshop on VLSI Signal Processing, Proceedings 1995. IEEE, Piscataway, NJ, USA. p 451-460
Publication Year: 1995
CODEN: 85PYA8

Language: English
Document Type: CA; (Conference Article) Treatment: T; (Theoretical)
Journal Announcement: 9602W2
Abstract: This paper describes a low-power scalable **video** decoder for use in portable **video** applications. The scalable **video** decoder uses tree structured vector quantization (TSVQ) of perceptually **weighted** block transforms. The subjective quality of **compressed images** improves significantly by the use of perceptual distortion **measures** . The low-**complexity** , low-power architecture requires only table-lookups to perform video decompression. Inverse transforms are performed as pre-processing steps in the tables. Color conversion from YUV to RGB and color quantization are also performed as pre-processing steps in the tables. The video decoder provides a trade-off between rate-distortion, power and memory size. This allows to trade-off power and memory size for better quality of **compressed video** and vice-versa. The power consumption of our video decoder is orders of magnitude smaller than other decoders in existing technology. Measured performance shows that the scalable video decoder consumes between 50 to 150 micro-watt with a 1.5 V power supply in 0.8 mu CMOS technology for 160 multiplied by 240 resolution video at 30 frames per second. (Author abstract) 7 Refs.
Descriptors: Video signal processing; Decoding; **Image** quality; **Image compression** ; Vector quantization; Color **image** processing; Mathematical transformations; Trees (mathematics); Bandwidth; Storage allocation (computer)
Identifiers: Video decoder; Tree structured vector quantization; Perceptually weighted block transforms; Color quantization
Classification Codes:
711.2 (Electromagnetic Waves in Relation to Various Structures); 723.2 (Data Processing); 921.1 (Algebra); 921.3 (Mathematical Transformations); 722.1 (Data Storage, Equipment & Techniques)
711 (Electromagnetic Waves); 741 (Optics & Optical Devices); 723 (Computer Software); 921 (Applied Mathematics); 722 (Computer Hardware)
71 (ELECTRONICS & COMMUNICATIONS); 74 (OPTICAL TECHNOLOGY); 72 (COMPUTERS & DATA PROCESSING); 92 (ENGINEERING MATHEMATICS)

18/5/8 (Item 1 from file: 2)
DIALOG(R)File 2:INSPEC

7895481 INSPEC Abstract Number: B2004-04-6135C-150, C2004-04-5260B-439
Title: Visual quality measure of the compressed images
Author(s): Tamtaoui, A.; Aboutajdine, D.
Author Affiliation: INPT, Rabat, Malta
Journal: Traitement du Signal vol.20, no.1 p.43-53
Publisher: GRETSI,
Publication Date: 2003 Country of Publication: France
CODEN: TRSIE6 ISSN: 0765-0019
SICI: 0765-0019(2003)20:1L.43:VQMC;1-A
Material Identity Number: H686-2003-002
Language: French Document Type: Journal Paper (JP)
Treatment: Theoretical (T); Experimental (X)
Abstract: This article presents a visual quality **measure** of the **compressed** monochrome **image** . This **measure** uses a reference **image** . The originality of this **measure** is based on the **weighting** of the standard **measures** by a local error **density** , **calculated** on the windows overlapping the **image** . The local error computation is based on the contrast, the structure and the quantification criteria. Actually, this method is compared with standard PSNR (Peak Signal to Noise Ratio) and MAE (Mean of Absolute Error) measures, weighted by the simplified Daly model [S. Daly (1987)], and Franti [P. Franti (1998)] methods. The results of our measure are reliable, compared with the methods mentioned above. The results are then evaluated in terms of the correlation measure with the Mean Opinion Score (MOS). (32 Refs)
Subfile: B C
Descriptors: correlation methods; image coding
Identifiers: visual quality measure; **compressed** monochrome **image** ; reference image; local error density; quantification criteria; peak signal

to noise ratio; PSNR; mean of absolute error; Daly model; Franti method; correlation measure; mean opinion score; MOS; objective quality; distortion measure; standard measure weighting; window overlapping

Class Codes: B6135C (Image and video coding); C5260B (Computer vision and image processing techniques)

18/5/17 (Item 1 from file: 144)

DIALOG(R)File 144:Pascal

15998323 PASCAL No.: 03-0143513

The complexity of compressing **subsegments of** images **described by finite automata**

KARHUMAEKI Juhani; PLANDOWSKI Wojciech; RYTTER Wojciech

Department of Mathematics, Finland and Turku Centre for Computer Science, Turku University, DataCity 4th floor, Turku 20014, Finland; Department of Mathematics, Turku University, Finland and Turku Centre for Computer Science, Finland; Instytut Informatyki, Uniwersytet Warszawski Banacha 2, 02-097 Warszawa, Poland; Department of Computer Science, University of Liverpool, Chadwick Building Peach Street, L69 72F Liverpool, United Kingdom

Journal: Discrete applied mathematics, 2003, 125 (2-3) 235-254

ISSN: 0166-218X CODEN: DAMADU Availability: INIST-18287; 354000106994040040

No. of Refs.: 12 ref.

Document Type: P (Serial) ; A (Analytic)

Country of Publication: Netherlands

Language: English

We investigate how the compression size of the compressed version of a two-dimensional image changes when we cut off a part of it, e.g. extract a photo of one person from a photo of a group of people, when compression is considered in terms of finite automata. Denote by c(T) the compression size of a square image T in terms of deterministic automata, it is the smallest size of a deterministic acyclic automaton A describing T. The corresponding alphabet of A has only four letters, corresponding to four quadrants. We consider an independent useful combinatorial interpretation of c(T) in terms of regular subsquares of T. Denote by PSI (n) the largest compression size c(R) of a square subsegment R of the image T such that c(T) = n. We show that there is a constant c > 0 such that: cn SUP 2 SUP . SUP 5 <= PSI (n) <= n SUP 2 SUP . SUP 5 . For weighted automata we show that the compression size grows only linearly, if T is described by a weighted automaton with n states and m edges then a subimage R can be described by a similar automaton having O(n) states and O(m) edges. We also show how to construct efficiently (in linear time w.r.t. the total size of the input and the produced output) the compressed representation of subsegments given the compressed representation of the whole image.

English Descriptors: **Image ; Data compression ; Image compr essio n^Finite au** ; Finite automaton; **Complexity** ; State; Edge; Linear time; Input output; Input; Representation; **Weight** ; Compression; Size; **Deterministic** automaton; Alphabet; Letter; Interpretation; Constant; Acyclic automaton; Square **image**

French Descriptors: **Image ; Compression donnee ; Compression image** ; Automate fini; Complexite; Etat; Bord; Temps lineaire; Entree sortie; Entree ordinateur; Representation; Poids; Compression; Taille; Automate deterministe; Alphabet; Lettre alphabet; Interpretation; Constante; Automate acyclique; Image carree

21/5/1 (Item 1 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

06743154 E.I. No: EIP04108045938
Title: Wavelet-based pavement distress detection and evaluation
Author: Zhou, Jian; Huang, Peisen S.; Chiang, Fu-Pen
Corporate Source: Department of Mechanical Engineering Stt. Univ. New York at Stony Brook, Stony Brook, NY 11794-2300, United States
Conference Title: Wavelets: Applications in Signal and Image Processing X
Conference Location: San Diego, CA, United States Conference Date: 20030804-20030808
Sponsor: SPIE
E.I. Conference No.: 62314
Source: Proceedings of SPIE - The International Society for Optical Engineering v 5207 n 2 2003. p 728-739
Publication Year: 2003
CODEN: PSISDG ISSN: 0277-786X
Language: English
Document Type: CA; (Conference Article) Treatment: T; (Theoretical); X; (Experimental)
Journal Announcement: 0403W2
Abstract: A wavelet-based pavement distress detection and evaluation method is proposed. This method consists of two main parts, real-time processing for distress detection and offline processing for distress evaluation. The real-time processing part includes wavelet transform, distress detection and isolation, and **image compression** and noise reduction. When a pavement image is decomposed into different frequency subbands by wavelet transform, the distresses, which are usually irregular in shape, appear as high-amplitude wavelet coefficients in the high-frequency details subbands, while the background appears in the low-frequency approximation subband. Two statistical parameters, high-amplitude wavelet coefficient percentage (HAWCP) and **high - frequency energy** percentage (HFEP), are established and used as criteria for real-time distress detection and distress **image** isolation. For **compression** of isolated distress **images** , a modified EZW (Embedded Zerotrees of Wavelet coding) is developed, which can simultaneously **compress** the **images** and reduce the noise. The **compressed data** are saved to the hard drive for further analysis and evaluation. The offline processing includes distress classification, distress quantification, and reconstruction of the original image for distress segmentation, distress mapping, and maintenance decision-making. The **compressed data** are first loaded and decoded to obtain wavelet coefficients. Then Radon transform is then applied and the parameters related to the peaks in the Radon domain are used for distress classification. For distress quantification, a norm is defined that can be used as an index for evaluating the severity and extent of the distress. Compared to visual or manual inspection, the proposed method has the advantages of being objective, high-speed, safe, automated, and applicable to different types of pavements and distresses. 38 Refs.
Descriptors: Pavements; Highway systems; **Image compression** ; Spurious signal noise; Frequencies; Image coding; Decision making; Wavelet transforms
Identifiers: Pavement image processing; Distress detection and isolation; Distress classification; Pavement surface evaluation; Distress segmentation
Classification Codes:
406.1 (Highway Systems); 723.2 (Data Processing); 701.1 (Electricity, Basic Concepts & Phenomena); 711.1 (Electromagnetic Waves in Different Media); 912.2 (Management); 921.3 (Mathematical Transformations)
406 (Highway Engineering); 723 (Computer Software, Data Handling & Applications); 701 (Electricity & Magnetism); 711 (Electromagnetic Waves) ; 912 (Industrial Engineering & Management); 921 (Applied Mathematics)
40 (CIVIL ENGINEERING, GENERAL); 72 (COMPUTERS & DATA PROCESSING); 70 (ELECTRICAL ENGINEERING, GENERAL); 71 (ELECTRONICS & COMMUNICATION ENGINEERING); 91 (ENGINEERING MANAGEMENT); 92 (ENGINEERING MATHEMATICS)

21/5/2 (Item 2 from file: 8)

DIALOG(R)File 8:Ei Compendex(R)

04806337 E.I. No: EIP97093803336
Title: Analytical look at the effects of compression **on medical** images
Author: Persons, Kenneth; Palisson, Patrice; Manduca, Armando; Erickson, Bradley J.; Savcenko, Vladimir
Corporate Source: Mayo Foundation, Rochester, MN, USA
Source: Journal of Digital Imaging v 10 n 3 Suppl 1 Aug 1997. p 60-66
Publication Year: 1997
CODEN: JDIMEW ISSN: 0897-1889
Language: English
Document Type: JA; (Journal Article) Treatment: T; (Theoretical)
Journal Announcement: 9710W4
Abstract: This article will take an analytical look at how lossy Joint Photographic Experts Group (**JPEG**) and wavelet **image compression** techniques affect medical **image** content. It begins with a brief explanation of how the JPEG and wavelet algorithms work, and describes in general terms what effect they can have on image quality (removal of noise, blurring, and artifacts). It then focuses more specifically on medical image diagnostic content and explains why subtle pathologies, that may be difficult for the human eye to discern because of low contrast, are generally very well preserved by these compression algorithms. By applying a wavelet decomposition to the whole image and to specific regions of interest (ROI), and by understanding how the lossy quantization step attenuates signals in those decomposition energy subbands, much can be learned about how tolerant various anatomical structures are to compression. High-frequency anatomical structures that have their energy represented by a few large coefficients (in the wavelet domain) will be well preserved, while, those structures with **high frequency energy** distributed over numerous smaller coefficients are the most vulnerable to **compression** . Digitized **films** showing subtle chest nodules, a subtle stress fracture, and CT and MR images are used to show these results. (Author abstract) 8 Refs.
Descriptors: Medical imaging; **Image compression** ; Wavelet transforms; Adaptive algorithms; Image quality; Computerized tomography; Magnetic resonance imaging; Radiology; Image communication systems; Standards
Identifiers: Wavelet compression; Teleradiology; Joint photographic experts group (**JPEG**) **compression**
Classification Codes:
461.1 (Biomedical Engineering); 723.2 (Data Processing); 921.3 (Mathematical Transformations); 723.5 (Computer Applications); 701.2 (Magnetism: Basic Concepts & Phenomena); 461.6 (Medicine)
461 (Biotechnology); 723 (Computer Software); 921 (Applied Mathematics); 701 (Electricity & Magnetism)
46 (BIOENGINEERING); 72 (COMPUTERS & DATA PROCESSING); 92 (ENGINEERING MATHEMATICS); 70 (ELECTRICAL ENGINEERING)

21/5/3 (Item 1 from file: 35)
DIALOG(R)File 35:Dissertation Abs Online

01886474 ORDER NO: AADAA-I1408715
Image compression **using multiscale geometric edge models**
Author: Wakin, Michael Bruce
Degree: M.S.
Year: 2002
Corporate Source/Institution: Rice University (0187)
Chair: Richard G. Baraniuk
Source: VOLUME 40/06 of MASTERS ABSTRACTS.
PAGE 1594. 53 PAGES
Descriptors: ENGINEERING, ELECTRONICS AND ELECTRICAL
Descriptor Codes: 0544
ISBN: 0-493-61484-2

Edges are of particular interest for **image compression** , as they communicate important information, contribute large amounts of **high** -

frequency energy , and can generally be described with few parameters. Many of today's most competitive coders rely on wavelets to transform and **compress** the **image** , but modeling the joint behavior of wavelet coefficients along an edge presents a distinct challenge. In this thesis, we examine techniques for exploiting the simple geometric structure which captures edge information. Using a multiscale wedgelet decomposition, we present methods for extracting and compressing a cartoon sketch containing the significant edge information, and we discuss practical issues associated with coding the residual textures. Extending these techniques, we propose a rate-distortion optimal framework (based on the Space-Frequency Quantization algorithm) using wedgelets to capture geometric information and wavelets to describe the rest. At low bitrates, this method yields **compressed images** with sharper edges and lower mean-square error.

21/5/4 (Item 1 from file: 2)

6765336 INSPEC Abstract Number: A2001-01-8734-003, B2001-01-7520E-001

Title: Effect of a single-channel wide dynamic range compression circuit on perception of stop consonant place of articulation

Author(s): Hedrick, M.S.; Rice, T.
Author Affiliation: Tennessee Univ., Knoxville, TN, USA

Journal: Journal of Speech, Language, and Hearing Research vol.43, no.5 p.1174-84
Publisher: American Speech-Language-Hearing Assoc,
Publication Date: Oct. 2000 Country of Publication: USA
CODEN: JSLRFW ISSN: 1092-4388
SICI: 1092-4388(200010)43:5L.1174:ESCW;1-H
Material Identity Number: G224-2000-006
U.S. Copyright Clearance Center Code: 1092-4388/2000/4305-1174
Language: English Document Type: Journal Paper (JP)
Treatment: Experimental (X)

Abstract: Previous studies have shown that altering the amplitude of a consonant in a specific frequency region relative to an adjacent vowel's amplitude in the same frequency region will affect listeners' perception of the consonant place of articulation. Hearing aids with single-channel, fast-acting wide dynamic range compression (WDRC) alter the overall consonant-vowel (CV) intensity ratio by increasing consonant energy. Perhaps one reason WDRC has had limited success in improving speech recognition performance is that the natural amplitude balances between consonant and vowel are altered in crucial frequency regions, thus disturbing the aforementioned amplitude cue for determining place of articulation. The current study investigated the effect of a WDRC circuit on listeners' perception of place of articulation when the relative amplitude of consonant and vowel was manipulated. The stimuli were a continuum of synthetic CV syllables stripped of all place cues except relative consonant amplitudes. Acoustic analysis of the CVs before and after hearing aid processing showed a predictable increase in **high - frequency energy** , particularly for the burst of the consonant. Alveolar bursts had more **high - frequency energy** than labial bursts. Twenty-five listeners with normal hearing and 5 listeners with sensorineural hearing loss labeled the consonant sound of the CV syllables in unaided form and after the syllables were recorded through a hearing aid with single-channel WDRC. There were significantly more listeners who were unable to produce a category boundary when labeling the aided stimuli. Of those listeners who did yield a category boundary for both aided and unaided stimuli, there were significantly more alveolar responses for the aided condition. These results can be explained by the acoustic analyses of the aided stimuli. (21 Refs)

Subfile: A B
Descriptors: biomedical electronics; **data compression** ; hearing aids; speech recognition
Identifiers: hearing impairment; single-channel wide dynamic range compression circuit; articulation stop consonant place perception; overall consonant-vowel intensity ratio; consonant energy increase; synthetic CV

syllables continuum; amplitude cue; alveolar responses; consonant burst; category boundary; sensorineural hearing loss; normal hearing listeners; alveolar bursts; **high - frequency energy** ; labial bursts

Class Codes: A8734 (Audition); A8770J (Prosthetics and other practical applications); A8736 (Speech and biocommunications); B7520E (Prosthetics and orthotics); B6130E (Speech recognition and synthesis)

21/5/5 (Item 2 from file: 2)

DIALOG(R)File 2:INSPEC

6307014 INSPEC Abstract Number: B1999-09-6135C-066, C1999-09-5260B-144

Title: Image compression **based on low-pass wavelet transform and multi-scale edge compensation. Part II: evidence and experiments**

Author(s): Xue, X.

Author Affiliation: Dept. of Comput. Sci., Harbin Inst. of Technol., China

Conference Title: Proceedings DCC'99 Data Compression Conference (Cat. No. PR00096) p.559

Editor(s): Storer, J.A.; Cohn, M.

Publisher: IEEE Comput. Soc, Los Alamitos, CA, USA

Publication Date: 1999 Country of Publication: USA xv+566 pp.

ISBN: 0 7695 0096 X Material Identity Number: XX-1999-00874

U.S. Copyright Clearance Center Code: 1068-0314/99/$10.00

Conference Title: Proceedings of Conference on Data Compression (DCC'99)

Conference Sponsor: IEEE Comput. Soc. Tech. Committee on Comput. Commun

Conference Date: 29-31 March 1999 Conference Location: Snowbird, UT, USA

Language: English Document Type: Conference Paper (PA)

Treatment: Theoretical (T); Experimental (X)

Abstract: Summary form only given. The scalability and recognition ability of the edge detection of MSEC can be observed, in which two kinds of edges are handled separately, and, for each kind of edge, the detector responds to the exact scale only. For example, the apparent large-scale edges in the original image are kept undetected until an appropriate decomposition level is reached. Compensated images are considerably smoothed since fine details are systematically removed. Such smoothing is seriously different from the traditional smoothing method in both the idea inside and the effect outside. The low-pass wavelet transform works since the compensated image contains much less **high - frequency energy** . By the low-pass wavelet transform, the system is able to reach and process edges at the next larger scale. So, the encoder outputs multi-scale primal sketches, which are coded in a modeled way instead of pixel by pixel. The encoder also outputs the final smooth background, which can be readily coded by traditional methods. The decoder synthesizes the image according to the received information on the multi-scale primal sketch and the background. (0 Refs)

Subfile: B C

Descriptors: **data compression** ; decoding; edge detection; image coding ; image recognition; low-pass filters; smoothing methods; transform coding; wavelet transforms

Identifiers: **image compression** ; low-pass wavelet transform; multi-scale edge compensation; recognition; scalability; edge detection; decomposition level; smoothing; multi-scale primal sketches; image synthesis; decoder

Class Codes: B6135C (Image and video coding); B6135E (Image recognition); B0290X (Integral transforms in numerical analysis); C5260B (Computer vision and image processing techniques); C1250M (Image recognition); C4188 (Integral transforms in numerical analysis)

21/5/6 (Item 1 from file: 6)

DIALOG(R)File 6:NTIS

1541869 NTIS Accession Number: NTN90-1064
Mining Applications of Crosshole Seismic Systems
(NTIS Tech Note)
Department of the Interior, Washington, DC.
Corp. Source Codes: 004199000
Dec 90 1p
Languages: English
Journal Announcement: GRAI9102
FOR ADDITIONAL INFORMATION: To discuss this effort further, contact Richard E. Thill, Twin Cities Research Center, U.S. Bureau of Mines, 5629 Minnehaha Avenue South, Minneapolis, MN 55417-3099; (612) 725-4580.
NTIS Prices: Not available NTIS
Country of Publication: United States
This citation summarizes a one-page announcement of technology available for utilization. Ground control for safe mining requires detection of geologic hazards and bad ground conditions in the immediate vicinity of the mine workings. Many geologic conditions that lead to falls of ground or instability in roof, rib, pillars, and working face cannot be detected by the unaided eye. If such hazardous geologic conditions can be detected and delineated in advance of mining, remedial measures can prevent instability in mine structures and reduce or eliminate the ground fall threat. Bureau research has developed crosshole geophysical technology to investigate areas between boreholes and delineate geologic anomalies and bad ground conditions in advance of mining. Two acoustic cross-borehole systems are being applied in a wide range of mining applications. Improved waveform processing and tomographic imaging capabilities were developed to process waveforms and image sections between boreholes to assist in the interpretation of subsurface geologic and hydrologic features. These crosshole systems, together with advanced tomographic imaging, permit visually opaque Earth structures to be viewed by acoustic (sound-seismic) waves in a manner similar to the way CAT scans view parts of the body in medical technology. The acoustic cross-borehole systems operate across pairs of slim boreholes of the type normally used in mining exploration. Because higher frequencies are required to resolve many of the small-scale features of most concerns in mining, and because the Earth selectively filters out **high - frequency energy** from acoustic signals, special acoustic emitter and receiver devices, along with personal-computer-based waveform processing and imaging technology, were developed for the high-resolution delineation of geologic structures. Tomographic reconstruction to provide an **image** of the **compressional** wave velocity variation between boreholes is accomplished using a simultaneous iterative reconstruction technique, assuming either straight- or curved-raypath transmission between the emitter and receiver units. An advantage of the cross-borehole approach over conventional surface seismic technology is that probe location in the borehole can be near the geologic target and thus can circumvent lower velocity, highly attenuating surface layers. This permits the propagation of higher frequency waves over shorter range, providing higher resolution capabilities. The following are applications of the cross-hole systems and imaging technology in mining: Ground control hazard detection, mine structural stability monitoring, geologic structure interpretation, site characterization, locating stress concentrations, in situ stress monitoring, fluid migration monitoring, and subsidence detection-delineation.
Descriptors: *Earth movements; *Seismic detection; *Mining engineering
Identifiers: NTISNTND
Section Headings: 48A (Natural Resources and Earth Sciences--Mineral Industries); 48F (Natural Resources and Earth Sciences--Geology and Geophysics)

21/5/7 (Item 1 from file: 144)
DIALOG(R)File 144:Pascal

16708005 PASCAL No.: 04-0360952
Wavelet-based pavement distress detection and evaluation
Wavelets : applications in signal and image processing X : San Diego CA, 4-8 August 2003

JIAN ZHOU; HUANG Peisen S; CHIANG Fu-Pen
UNSER Michael A, ed; ALDROUBI Akram, ed; LAINE Andrew F, ed
Department of Mechanical Engineering, State University of New York at Stony Brook, Stony Brook, New York 11794-2300, United States
International Society for Optical Engineering, Bellingham WA, United States
Wavelets : applications in signal and image processing. Conference, 10 (San Diego CA USA) 2003-08-04
Journal: SPIE proceedings series, 2003, 5207 (p.1) 728-739
ISBN: 0-8194-5080-4 ISSN: 1017-2653 Availability: INIST-21760; 354000117837440690
No. of Refs.: 38 ref.
Document Type: P (Serial); C (Conference Proceedings) ; A (Analytic)
Country of Publication: United States
Language: English
A wavelet-based pavement distress detection and evaluation method is proposed. This method consists of two main parts, real-time processing for distress detection and offline processing for distress evaluation. The real-time processing part includes wavelet transform, distress detection and isolation, and **image compression** and noise reduction. When a pavement image is decomposed into different frequency subbands by wavelet transform, the distresses, which are usually irregular in shape, appear as high-amplitude wavelet coefficients in the high-frequency details subbands, while the background appears in the low-frequency approximation subband. Two statistical parameters, high-amplitude wavelet coefficient percentage (HAWCP) and **high - frequency energy** percentage (HFEP), are established and used as criteria for real-time distress detection and distress **image** isolation. For **compression** of isolated distress **images** , a modified EZW (Embedded Zerotrees of Wavelet coding) is developed, which can simultaneously **compress** the **images** and reduce the noise. The **compressed data** are saved to the hard drive for further analysis and evaluation. The offline processing includes distress classification, distress quantification, and reconstruction of the original image for distress segmentation, distress mapping, and maintenance decision-making. The **compressed data** are first loaded and decoded to obtain wavelet coefficients. Then Radon transform is then applied and the parameters related to the peaks in the Radon domain are used for distress classification. For distress quantification, a norm is defined that can be used as an index for evaluating the severity and extent of the distress. Compared to visual or manual inspection, the proposed method has the advantages of being objective, high-speed, safe, automated, and applicable to different types of pavements and distresses.

English Descriptors: Noise reduction; Wavelet transformation; Image processing; Image segmentation; Image reconstruction; **Image** classification; **Image compression** ; **Image** sensor; Noisy **image**

French Descriptors: Reduction bruit; Transformation ondelette; Traitement image; Segmentation image; Reconstruction **image** ; Classification **image** ; **Compression image** ; Detecteur **image** ; **Image** bruitee; Pavement imge; Pavement distress detection

25/5/1 (Item 1 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

06986938 E.I. No: EIP04348319026
Title: Multiresolution transforms in modern image and video coding systems
Author: **Malvar, Henrique S.**
Corporate Source: Microsoft Research, Redmond, WA 98052, United States
Conference Title: Independent Component Analyses, Wavelets, Unsupervised Smart Sensors, and Neural Networks II
Conference Location: Orlando, FL, United States Conference Date: 20040414-20040415
Sponsor: International Society for Optical Engineering
E.I. Conference No.: 63399
Source: Proceedings of SPIE - The International Society for Optical Engineering Independent Component Analyses, Wavelets, Unsupervised Smart Sensors, and Neural Networks II v 5439 2004.
Publication Year: 2004
CODEN: PSISDG ISSN: 0277-786X
Language: English
Document Type: CA; (Conference Article) Treatment: T; (Theoretical)
Journal Announcement: 0408W4
Abstract: This paper presents a brief overview of the multiresolution transform designs used in a few **image** and **video compression** systems, namely H.264, PTC (progressive transform coder), and JPEG2000. The first two use hierarchical transforms, and the third uses wavelet transforms. We review the basis constructions for the hierarchical transforms, and compare some of their characteristics with those of wavelet transforms. In terms of compression performance as measured by peak-signal to noise ratio, H.264 provides the best performance, but at much higher computational **complexity** . In terms of visual **quality** , the multiresolution transforms provide an improvement over block (single resolution) transforms. 18 Refs.
Descriptors: Image coding; Signal to noise ratio; Wavelet transforms; Entropy; Motion compensation; Trees (mathematics); Computational **complexity** ; Correlation methods
Identifiers: Lapped transforms; Hierachical transforms; Moving picture expert group (MPEG); Entropy order
Classification Codes:
723.2 (Data Processing); 716.1 (Information & Communication Theory); 921.3 (Mathematical Transformations); 641.1 (Thermodynamics); 921.4 (Combinatorial Mathematics, Includes Graph Theory, Set Theory); 721.1 (Computer Theory (Includes Formal Logic, Automata Theory, Switching Theory & Programming Theory)); 922.2 (Mathematical Statistics)
723 (Computer Software, Data Handling & Applications); 716 (Electronic Equipment, Radar, Radio & Television); 921 (Applied Mathematics); 641 (Heat & Mass Transfer; Thermodynamics); 721 (Computer Circuits & Logic Elements); 922 (Statistical Methods)
72 (COMPUTERS & DATA PROCESSING); 71 (ELECTRONICS & COMMUNICATION ENGINEERING); 92 (ENGINEERING MATHEMATICS); 64 (HEAT & THERMODYNAMICS)

25/5/2 (Item 2 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

05851340 E.I. No: EIP01286573795
Title: Improving wavelet compression with neural networks
Author: Burges, C.J.C.; Simard, P.Y.; **Malvar, H.S.**
Corporate Source: Microsoft Research, Redmond, WA 98052, United States
Conference Title: Data Compression Conference
Conference Location: Snowbird, UT, United States Conference Date: 20010327-20010329
Sponsor: Brandeis University
E.I. Conference No.: 58224
Source: Data Compression Conference Proceedings 2001. p 486
Publication Year: 2001

CODEN: DDCCF9 ISSN: 1068-0314
Language: English
Document Type: CA; (Conference Article) Treatment: T; (Theoretical); X; (Experimental)
Journal Announcement: 0107W2
Abstract: A neural network predictor was added to the PWC image codec to predict wavelet coefficients. The 2-layer, 20-hidden node, fully connected network was trained offline on box-shaped causal contexts of 24 coefficients. The net was trained on the first 16 images in the Kodak database and tested on images 18-24. Adding the network predictor for wavelet levels 0-2 and subbands LH, HL, and HH reduced the bit rate by 5% across the test set. The reduction in variance did not always result in a reduction of the first order empirical entropy of the wavelet coefficients. (Edited abstract) 1 Refs.
Descriptors: **Image compression** ; **Image** coding; Wavelet transforms; Neural networks; Encoding (symbols); Decoding; Database systems; Computational **complexity** ; Edge detection
Identifiers: Wavelet compression; Neural network training
Classification Codes:
723.2 (Data Processing); 921.3 (Mathematical Transformations); 723.4 (Artificial Intelligence); 723.3 (Database Systems); 721.1 (Computer Theory (Includes Formal Logic, Automata Theory, Switching Theory & Programming Theory)); 723.5 (Computer Applications)
723 (Computer Software, Data Handling & Applications); 921 (Applied Mathematics); 721 (Computer Circuits & Logic Elements)
72 (COMPUTERS & DATA PROCESSING); 92 (ENGINEERING MATHEMATICS)

25/5/3 (Item 3 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

05354868 E.I. No: EIP99094779636
Title: Fast progressive wavelet coding
Author: **Malvar, Henrique S.**
Corporate Source: Microsoft Research, Redmond, WA, USA
Conference Title: Proceedings of the 1999 Data Compression Conference, DCC-99
Conference Location: Snowbird, UT, USA Conference Date: 19990329-19990331
Sponsor: IEEE
E.I. Conference No.: 55240
Source: Data Compression Conference Proceedings 1999. p 336-343
Publication Year: 1999
CODEN: DDCCF9 ISSN: 1068-0314
Language: English
Document Type: JA; (Journal Article) Treatment: A; (Applications)
Journal Announcement: 9910W3
Abstract: Fast and efficient **image compression** can be achieved with the progressive wavelet coder (PWC) introduced in this paper. Unlike many previous wavelet coders, PWC does not rely on zerotrees or other ordering schemes based on parent-child wavelet relationships. PWC has a very simple structure, based on two key concepts: (1) data-independent reordering and blocking, and (2) low- **complexity** independent encoding of each block via adaptive Rice coding of bit planes. In that way, PWC allows for progressive image encoding that is scalable both in resolution and bit rate, with a fully embedded bitstream. PWC achieves a rate vs. distortion performance that is comparable to that of the state-of-the-art SPIHT (set partitioning in hierarchical trees) coder, but with a better performance/ **complexity** ratio. (Author abstract) 13 Refs.
Descriptors: **Image** coding; **Image compression** ; Bit error rate; Computational **complexity** ; Bandwidth; Trees (mathematics)
Identifiers: Fast progressive wavelet coding; Set partitioning in hierarchical trees; Joint photographic experts group
Classification Codes:
723.2 (Data Processing); 723.1 (Computer Programming); 721.1 (Computer Theory, Includes Formal Logic, Automata Theory, Switching Theory, Programming Theory); 716.1 (Information & Communication Theory); 921.4

(Combinatorial Mathematics, Includes Graph Theory, Set Theory)
723 (Computer Software); 721 (Computer Circuits & Logic Elements); 716 (Radar, Radio & TV Electronic Equipment); 921 (Applied Mathematics)
72 (COMPUTERS & DATA PROCESSING); 71 (ELECTRONICS & COMMUNICATIONS); 92 (ENGINEERING MATHEMATICS)

25/5/4 (Item 4 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

05118995 E.I. No: EIP98094374159
Title: Making faces
Author: Guenter, Brian; Grimm, Cindy; Wood, Daniel; **Malvar, Henrique** ; Pighin, Fredrick
Corporate Source: Microsoft Corp
Conference Title: Proceedings of the 1998 Annual Conference on Computer Graphics, SIGGRAPH
Conference Location: Orlando, FL, USA Conference Date: 19980719-19980724
E.I. Conference No.: 48945
Source: Proceedings of the ACM SIGGRAPH Conference on Computer Graphics 1998. ACM, New York, NY, USA. p 55-65
Publication Year: 1998
CODEN: 002150
Language: English
Document Type: CA; (Conference Article) Treatment: T; (Theoretical)
Journal Announcement: 9811W2
Abstract: We have created a system for capturing both the three dimensional geometry and color and shading information for human facial expressions. We use this data to reconstruct photorealistic, 3D animations of the captured expressions. The system uses a large set of sampling points on the face to accurately track the three dimensional deformations of the face. Simultaneously with the tracking of the geometric data, we capture multiple high resolution, registered video images of the face. These images are used to create a texture map sequence for a three dimensional polygonal face model which can then be rendered on standard 3D graphics hardware. The resulting facial animation is surprisingly life-like and looks very much like the original live performance. Separating the capture of the geometry from the texture images eliminates much of the variance in the image data due to motion, which increases compression ratios. Although the primary emphasis of our work is not compression we have investigated the use of a novel method to **compress** the geometric **data** based on principal components analysis. The texture sequence is **compressed** using an MPEG4 **video** codec. Animations reconstructed from 512 multiplied by 512 pixel textures look good at data rates as low as 240 Kbits per second. (Author abstract) 15 Refs.
Descriptors: Animation; Three dimensional computer graphics; Pattern recognition systems; Computer systems programming; Computational geometry; Image analysis; **Image quality** ; **Image compression** ; **Image** coding; **Image** reconstruction
Identifiers: Facial animation; Motion picture experts group (MPEG) standards
Classification Codes:
723.5 (Computer Applications); 741.1 (Light/Optics); 723.1 (Computer Programming); 921.4 (Combinatorial Mathematics, Includes Graph Theory, Set Theory); 723.2 (Data Processing)
723 (Computer Software); 741 (Optics & Optical Devices); 921 (Applied Mathematics)
72 (COMPUTERS & DATA PROCESSING); 74 (OPTICAL TECHNOLOGY); 92 (ENGINEERING MATHEMATICS)

25/5/5 (Item 5 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

04735149 E.I. No: EIP97063704473

Title: Lapped biorthogonal transforms for transform coding with reduced blocking and ringing artifacts
Author: **Malvar, Henrique S.**
Corporate Source: PictureTel Corp, Andover, MA, USA
Conference Title: Proceedings of the 1997 IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP. Part 3 (of 5)
Conference Location: Munich, Ger Conference Date: 19970421-19970424
Sponsor: IEEE
E.I. Conference No.: 46531
Source: Speech Processing, Digital Signal Processing ICASSP, IEEE International Conference on Acoustics, Speech and Signal Processing - Proceedings v 3 1997. IEEE, Piscataway, NJ, USA,97CB36052. p 2421-2424
Publication Year: 1997
CODEN: IPRODJ ISSN: 0736-7791
Language: English
Document Type: CA; (Conference Article) Treatment: T; (Theoretical)
Journal Announcement: 9708W3
Abstract: Two new lapped transforms are introduced: the LBT (lapped biorthogonal transform) and the HLBT (hierarchical lapped biorthogonal transform). The LBT has the same computational **complexity** of the LOT (lapped orthogonal transform), with much less blocking artifacts. The HLBT has a significantly lower computational **complexity** than the LOT, essentially no blocking artifacts, and less ringing artifacts than the commonly-used DCT (discrete cosine transform). The LBT and HLBT have a transform coding gain that is typically between 0.5 and 2.5 dB higher than that of the DCT. Image coding examples using JPEG and embedded zerotree coders demonstrate the better performance of the LBT and HLBT. (Author abstract) 10 Refs.
Descriptors: **Image compression** ; **Image** coding; Mathematical transformations; Computational **complexity** ; Gain measurement; Trees (mathematics); Block codes
Identifiers: Transform coding (TC); Lapped biorthogonal transform (LBT); Hierarchical lapped biorthogonal transform (HLBT); Lapped orthogonal transform (LOT); Discrete cosine transform (DCT); Joint photographers expert group (JPEG)
Classification Codes:
723.2 (Data Processing); 921.3 (Mathematical Transformations); 721.1 (Computer Theory, Includes Formal Logic, Automata Theory, Switching Theory, Programming Theory); 942.2 (Electric Variables Measurements); 921.4 (Combinatorial Mathematics, Includes Graph Theory, Set Theory); 723.1 (Computer Programming)
723 (Computer Software); 921 (Applied Mathematics); 721 (Computer Circuits & Logic Elements); 942 (Electrical & Electronic Measuring Instruments)
72 (COMPUTERS & DATA PROCESSING); 92 (ENGINEERING MATHEMATICS); 94 (INSTRUMENTS & MEASUREMENT)

25/5/6 (Item 6 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

04314005 E.I. No: EIP95122939034
Title: Improved Chen-Smith image coder
Author: Rubino, Eduardo M.; Queiroz, Ricardo L.; **Malvar, Henrique S.**
Corporate Source: Univ. de Brasilia, Brasilia, Brazil
Source: Journal of Electronic Imaging v 4 n 2 Apr 1995. p 151-160
Publication Year: 1995
CODEN: JEIME5 ISSN: 1017-9909
Language: English
Document Type: JA; (Journal Article) Treatment: T; (Theoretical); A; (Applications)
Journal Announcement: 9602W4
Abstract: A new transform coder based on the zonal sampling strategy, which outperforms the JPEG baseline coder with comparable computational **complexity** , is presented. The primary transform used is the 8- x 8-pixel-block discrete cosine transform, although it can be replaced by other transforms, such as the lapped orthogonal transform, without any

change in the algorithm. This coder is originally based on the Chen-Smith coder; therefore we call it an improved Chen-Smith (ICS) coder. However, because many new features were incorporated in this improved version, it largely outperforms its predecessor. Key approaches in the ICS coder, such as a new quantizer design, arithmetic coders, noninteger bit-rate allocation, decimalized variance maps, distance-based block classification, and human visual sensitivity weighting, are essential for its high performance, **Image compression** programs were developed and applied to several test images. The results show that the ICS performs substantially better than the JPEG coder. (Author abstract) 24 Refs.

Descriptors: Image coding; Computational **complexity** ; Mathematical transformations; Algorithms; Maps; **Image compression** ; Testing; Visibility

Identifiers: Chen-Smith coder; JPEG coder; Bit rate allocation

Classification Codes:

723.1 (Computer Programming); 741.2 (Vision); 921.3 (Mathematical Transformations)

723 (Computer Software); 741 (Optics & Optical Devices); 921 (Applied Mathematics)

72 (COMPUTERS & DATA PROCESSING); 74 (OPTICAL TECHNOLOGY); 92 (ENGINEERING MATHEMATICS)

25/5/7 (Item 1 from file: 2)

DIALOG(R)File 2:INSPEC

7715563 INSPEC Abstract Number: B2003-10-6135C-011, C2003-10-5260D-009

Title: Low- complexity **transform and quantization in H.264/AVC**

Author(s): **Malvar, H.S.** ; Hallapuro, A.; Karczewicz, M.; Kerofsky, L.

Author Affiliation: Microsoft Res., Redmond, WA, USA

Journal: IEEE Transactions on Circuits and Systems for Video Technology vol.13, no.7 p.598-603

Publisher: IEEE,

Publication Date: July 2003 Country of Publication: USA

CODEN: ITCTEM ISSN: 1051-8215

SICI: 1051-8215(200307)13:7L.598:CTQ;1-X

Material Identity Number: 0647-2003-008

U.S. Copyright Clearance Center Code: 1051-8215/03/$17.00

Language: English Document Type: Journal Paper (JP)

Treatment: Theoretical (T)

Abstract: This paper presents an overview of the transform and quantization designs in H.264. Unlike the popular 8*8 discrete cosine transform used in previous standards, the 4*4 transforms in H.264 can be computed exactly in integer arithmetic, thus avoiding inverse transform mismatch problems. The new transforms can also be computed without multiplications, just additions and shifts, in 16-bit arithmetic, thus minimizing computational **complexity** , especially for low-end processors. By using short tables, the new quantization formulas use multiplications but avoid divisions. (18 Refs)

Subfile: B C

Descriptors: code standards; computational **complexity** ; **data compression** ; digital arithmetic; quantisation (signal); telecommunication standards; transform coding; transforms; video coding

Identifiers: low- **complexity** transform; low- **complexity** quantization; H.264/AVC; integer arithmetic; additions; shifts; arithmetic; computational **complexity** minimization; low-end processors; short tables; quantization formulas; multiplications; H.264 video coding standard; discrete cosine transform; DCT; 16 bit

Class Codes: B6135C (Image and video coding); B0290X (Integral transforms in numerical analysis); C5260D (Video signal processing); C4188 (Integral transforms in numerical analysis); C5230 (Digital arithmetic methods)

Numerical Indexing: word length 1.6E+01 bit

25/5/8 (Item 1 from file: 144)

DIALOG(R)File 144:Pascal

13554166 PASCAL No.: 98-0255672
Motion estimation using a complex **-valued wavelet transform**
Theory and application of filter banks and wavelet transforms
MAGAREY J; KINGSBURY N
AKANSU Ali N, ed; MALLAT Stephane, ed; **MALVAR Henrique** , ed; PARHI Keshab K, ed; SMITH Mark J T, ed; TEWFIK Ahmed, ed; VAIDYANATHAN P P, ed
Visual Processing Group, Cooperative Research Centre for Sensor Signal and Information Processing, Adelaide, Australia; Signal Processing and Communications Labo ratory, Department of Engineering, Cambridge University , Cambridge, United Kingdom
New Jersey Institute of Technology, United States; Ecole Polytechnique, France; Microsoft, United States; University of Minnesota, United States; Georgia Institute of Technology, United States; California Institute of Technology, United States
Journal: IEEE transactions on signal processing, 1998, 46 (4) 1069-1084
ISSN: 1053-587X Availability: INIST-222E3; 354000075273940180
No. of Refs.: 29 ref.
Document Type: P (Serial) ; A (Analytic)
Country of Publication: United States
Language: English
Abtract-This paper describes a new motion estimation algorithm that is potentially useful for both computer vision and **video compression** applications. It is hierarchical in structure, using a separable two-dimensional (2-D) discrete wavelet transform (DWT) on each frame to efficiently construct a multiresolution pyramid of subimages. The DWT is based on a **complex** -valued pair of four-tap FIR filters with Gabor-like characteristics. The resulting **complex** DWT (CDWT) effectively implements an analysis by an ensemble of Gabor-like filters with a variety of orientations and scales. The phase difference between the subband coefficients of each frame at a given subpel bears a predictable relation to a local translation in the region of the reference frame subtended by that subpel. That relation is used to estimate the displacement field at the coarsest scale of the multiresolution pyramid. Each estimate is accompanied by a directional confidence measure in the form of the parameters of a quadratic matching surface. The initial estimate field is progressively refined by a coarse-to-fine strategy in which finer scale information is appropriately incorporated at each stage. The accuracy, efficiency, and robustness of the new algorithm are demonstrated in comparison testing against hierarchical implementations of intensity gradient-based and fractional-precision block matching motion estimators.

English Descriptors: Image processing; Motion estimation; Signal **compression** ; **Video** signal; Computer vision; Hierarchized structure; Wavelet transformation; Discrete transformation; Filter bank; Finite impulse response filter; Multiresolution analysis; Subband decomposition

French Descriptors: Traitement **image** ; Estimation mouvement; **Compression** signal; Signal **video** ; Vision ordinateur; Structure hierarchisee; Transformation ondelette; Transformation discrete; Banc filtre; Filtre reponse impulsion finie; Analyse multiresolution; Decomposition sous bande

Classification Codes: 001D04A05C

25/5/9 (Item 2 from file: 144)
DIALOG(R)File 144:Pascal

13554162 PASCAL No.: 98-0255668
Robust image transmission over energy-constrained time-varying channels using multiresolution joint source-channel coding
Theory and application of filter banks and wavelet transforms

KOZINTSEV I; RAMCHANDRAN K
AKANSU Ali N, ed; MALLAT Stephane, ed; **MALVAR Henrique** , ed; PARHI Keshab K, ed; SMITH Mark J T, ed; TEWFIK Ahmed, ed; VAIDYANATHAN P P, ed
Electrical and Computer Engineering Department, University of Illinois at Urbana-Champaign, Urbana, IL 61801, United States
New Jersey Institute of Technology, United States; Ecole Polytechnique, France; Microsoft, United States; University of Minnesota, United States; Georgia Institute of Technology, United States; California Institute of Technology, United States
Journal: IEEE transactions on signal processing, 1998, 46 (4) 1012-1026
ISSN: 1053-587X Availability: INIST-222E3; 354000075273940140
No. of Refs.: 32 ref.
Document Type: P (Serial) ; A (Analytic)
Country of Publication: United States
Language: English

We explore joint source-channel coding (JSCC) for time-varying channels using a multiresolution framework for both source coding and transmission via novel multiresolution modulation constellations. We consider the problem of still image transmission over time-varying channels with the channel state information (CSI) available at 1) receiver only and 2) both transmitter and receiver being informed about the state of the channel, and we quantify the effect of CSI availability on the performance. Our source model is based on the wavelet image decomposition, which generates a collection of subbands modeled by the family of generalized Gaussian distributions. We describe an algorithm that jointly optimizes the design of the multiresolution source codebook, the multiresolution constellation, and the decoding strategy of optimally matching the source resolution and signal constellation resolution "trees" in accordance with the time-varying channel and show how this leads to improved performance over existing methods. The real-time operation needs only table lookups. Our results based on a wavelet image representation show that our multiresolution-based optimized system attains gains on the order of 2 dB in the reconstructed image **quality** over single-resolution systems using channel optimized source coding.

English Descriptors: Image processing; Image transmission; Digital transmission; **Data compression** ; Coding; Time variable channel; Multiresolution analysis; Quantization; Hierarchical system; Subband decomposition; Wavelet transformation
French Descriptors: Traitement image; Transmission **image** ; Transmission numerique; **Compression** donnee; Codage; Canal variant dans temps; Analyse multiresolution; Quantification; Systeme hierarchise; Decomposition sous bande; Transformation ondelette

Classification Codes: 001D04A05C; 001D04B02G

25/5/10 (Item 1 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

05250553 Genuine Article#: VL016 Number of References: 17
Title: EXTENDED COSINE BASES AND APPLICATIONS TO AUDIO CODING
Author(s): **MALVAR HS**
Corporate Source: PICTURETEL CORP/ANDOVER//MA/01810
Journal: COMPUTATIONAL AND APPLIED MATHEMATICS, 1996, V15, N2, P111-123
ISSN: 0101-8205
Language: ENGLISH Document Type: ARTICLE
Geographic Location: USA
Subfile: SciSearch
Journal Subject Category: MATHEMATICS, APPLIED
Abstract: We present local cosine bases with extended time overlap, a continuous-time version of the extended lapped transform (ELT). The ELT has better frequency resolution than the cosine basis proposed by Meyer as a continuous-time version of the modulated lapped transform (MLT).

The HLT (hierarchical lapped transform) multiresolution decomposition based on the ELT is reviewed, as well as an example of its application to audio coding, with a performance similar to that of the MPEG Layer III standard but with a lower computational **complexity** .

Descriptors--Author Keywords: LOCAL BASES ; WAVELETS ; LAPPED TRANSFORMS ; FOURIER ANALYSIS ; ELT ; AUDIO CODING
Identifiers--KeyWords Plus: LAPPED TRANSFORMS
Research Fronts: 94-0623 001 (TIME-FREQUENCY DISTRIBUTIONS; DOPPLER SIGNALS; TREE-STRUCTURED VECTOR QUANTIZATION; SPEECH CODING; ADAPTIVE KERNEL DESIGN; **COMPRESSION** OF DIGITAL **IMAGES**)

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File 275:Gale Group Computer DB(TM) 1983-2004/Aug 25
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Set     Items   Description
S1      67709   COMPRESS?(3N)(IMAGE? ? OR PHOTO? ? OR PHOTOGRAPH? ? OR PIC-
             TURE? ? OR GRAPHIC?? OR MEDIA OR MULTIMEDIA OR VIDEO? ? OR MO-
             VIE? ? OR FILM? ? OR ANIMATION OR ANIMATED OR JPEG OR JPG OR -
             GIF OR TIFF? ? OR BITMAP? ? OR BMP)
S2      81676   COMPRESS?(3N)(CONTENT? ? OR DATA OR INFORMATION OR FILE? ?
             OR DOCUMENT? ? OR ARTICLE? ? OR TEXT? ? OR TEXTUAL OR EMAIL OR
              MAIL OR MESSAGE? ?)
S3      19201   COMPRESS???(3N)(MAXIMUM OR MAXIMAL?? OR BEST OR HIGHEST OR
             GREATEST OR LARGEST OR SMALL??? OR MINIMUM OR MINIMAL OR LOW?-
             ?? OR NOMINAL OR LEAST)
S4     222807   SIZE(5N)(SMALL??? OR MINIMUM OR MINIMAL OR LOW??? OR NOMIN-
             AL OR LEAST)
S5      10728   S3:S4(10N)(DETERMIN? OR ESTIMAT??? OR ASSESS? OR IDENTIF? -
             OR CALCULAT? OR ASCERTAIN? OR FIND??? OR COMPUTE OR COMPUTES -
             OR COMPUTED OR COMPUTING OR GAUG? OR MEASUR? OR DISCERN?)
S6    3094412   WEIGHT??? OR SCOR??? OR GRAD??? OR RATED OR RATING
S7    2005736   HIGH()FREQUENCY()ENERGY OR COMPLEX? OR INTRICA? OR DENSITY
S8    7619097   IMAGE? ? OR PHOTO? ? OR PHOTOGRAPH? ? OR PICTURE? ? OR GRA-
             PHIC?? OR MEDIA OR MULTIMEDIA OR VIDEO? ? OR MOVIE? ? OR FILM?
              ? OR ANIMATION OR ANIMATED
S9      93999   JPEG OR JPG OR GIF OR TIFF? ? OR BITMAP? ? OR BMP
S10        63   S1:S2(50N)S5(50N)QUALITY
S11        43   RD (unique items)
S12        38   S11 NOT PD>20020314
S13       268   S6(7N)S8:S9(7N)S7(7N)(DETERMIN? OR ESTIMAT? OR ASSESS? OR -
             IDENTIF???? OR IDENTIFICATION OR CALCULAT? OR ASCERTAIN? OR F-
             IND??? OR COMPUTE OR COMPUTES OR COMPUTED OR COMPUTING OR GAU-
             G? OR MEASUR? OR DISCERN? OR ASSIGN??? OR GIVEN OR GIVING)
S14         9   S1:S2(100N)S13
S15         6   RD (unique items)
S16       172   HIGH()FREQUENCY()ENERGY
S17         1   S1:S2(100N)S16
```

12/3,K/1 **(Item 1 from file: 275)**
DIALOG(R)File 275:Gale Group Computer DB(TM)
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02581129 SUPPLIER NUMBER: 83041567 (USE FORMAT 7 OR 9 FOR FULL TEXT)
SHRINKING THE VIDEO: HOW CODECS WORK -- Before you even start to research streaming-media solutions, take some time to understand the variety of open codec standards. You'll be glad you did.
Woods, Darrin
Network Computing, 77
Feb 18, 2002
ISSN: 1046-4468 LANGUAGE: English RECORD TYPE: Fulltext
WORD COUNT: 2341 LINE COUNT: 00176

... may take shortcuts to get to the end result, leaving a video signal that does not retain all the original **quality** and clarity or isn't compressed as tightly. The trick is to **find** the balance between small **files** and real-time **compression** that gives the **best quality** .
Video codecs are typically classified as lossy or lossless. Typically, lossy means a visible loss of **quality** , whereas lossless defines an image with imperceptible loss. Truth be told, most video codecs are lossy to some extent. Because video **quality** is subjective, some amount of loss is acceptable without degrading the experience.
The MPEG family
The most recognizable form of...

12/3,K/2 **(Item 2 from file: 275)**
DIALOG(R)File 275:Gale Group Computer DB(TM)
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02566792 SUPPLIER NUMBER: 81008762 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Low-Res Editing in Final Cut Pro 2: Hands-on Tips and Expert Advice for Savvy Mac Users. (How-To).(Tutorial)
Linecker, Anton
Macworld, 19, 1, 68(6)
Jan, 2002
DOCUMENT TYPE: Tutorial ISSN: 0741-8647 LANGUAGE: English
RECORD TYPE: Fulltext
WORD COUNT: 2639 LINE COUNT: 00194

... manage low-res editing.
In this article, you'll learn how to capture using Photo-JPEG, a format that efficiently **compresses video** but retains respectable image **quality** . Then we'll show you how to set up a low-res sequence, edit that sequence, and finalize your project...

...article "Designing DVD Menus for DVD Studio Pro" (Macworld, July 2001).
(Graph omitted)
RELATED ARTICLE: 1. Choose a Capture Setting **Finding** your computer's **maximum** rate of **compression** is essential before you start a project. Steps 1, 2, and 3 will help you determine the capture setting that ...

12/3,K/3 **(Item 3 from file: 275)**
DIALOG(R)File 275:Gale Group Computer DB(TM)
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02400599 SUPPLIER NUMBER: 62052841 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Affordable digital cameras.(reviews of six under-$550 cameras)(Hardware Review)(Evaluation)
CALABRO, EILEEN BIEN
Home Office Computing, 18, 5, 69
May, 2000
DOCUMENT TYPE: Evaluation ISSN: 0899-7373 LANGUAGE: English
RECORD TYPE: Fulltext; Abstract
WORD COUNT: 2851 LINE COUNT: 00239

... modest desktop publishing and presentation work can be found for as little as $299--and $500 will get you image **quality** that just a year ago would have cost twice that.

Don't believe us? For this buyer's guide, we...

...LCD display, an optical viewfinder, 8MB of removable image storage, at least four flash modes, a video-out port, several **file** format and **compression** choices, a self-timer, date and time stamps, and a one-year warranty.

Four of our six cameras boast optical...

...Macs.

We used the cameras to photograph subjects indoors and out, in several flash modes, at multiple resolutions and image- **quality** settings (our comments on image **quality** are based on each camera's **highest - quality , lowest - compression** mode). We were surprised to **find** that the most feature-rich cameras didn't always supply the sharpest, most colorful pictures--and, conversely, that the lowest...

12/3,K/4 (Item 4 from file: 275)

02361363 SUPPLIER NUMBER: 58458806 (USE FORMAT 7 OR 9 FOR FULL TEXT)

Software: focus on graphics and imaging. (six graphics programs) (Software Review) (Evaluation)

T H E Journal (Technological Horizons In Education), 27, 5, 42
Dec, 1999
DOCUMENT TYPE: Evaluation ISSN: 0192-592X LANGUAGE: English
RECORD TYPE: Fulltext; Abstract
WORD COUNT: 1091 LINE COUNT: 00095

... design. New features of the program set out to make Web design smooth and easy. There are advanced optimizing and **graphic compression** capabilities, as well as more advanced features for things like JavaScript rollovers, animation and image slicing.

Multiple LiveView panels in the software's new Save for the Web window help designers **find** the **best compression** options, translating into shorter download times and higher- **quality** Web graphics. The new Lossy GIF feature dramatically reduces file size with minimal loss of image **quality** . Users can quickly create instant transparency with the color decontamination capabilities of the new Background Eraser and Extract Image tools...

12/3,K/5 (Item 5 from file: 275)

02246333 SUPPLIER NUMBER: 21261214 (USE FORMAT 7 OR 9 FOR FULL TEXT)

Cubic VideoComm does video email. (CVideo-Mail 2.0 video board captures video for transmission at E-mail attachments) (Software Review) (Evaluation)

Yuan, Betty
Teleconnect, v16, n11, p20(2)
Nov, 1998
DOCUMENT TYPE: Evaluation ISSN: 0740-9354 LANGUAGE: English
RECORD TYPE: Fulltext; Abstract
WORD COUNT: 780 LINE COUNT: 00063

... video email is effortless: press "record" or double-click on the video screen and the "film" starts rolling. Control video **quality** by choosing the file size you want to send (**determined** by the amount of **compression**): **small** (0.5MB/min); medium (1MB/min); large (2MB/min); or custom (lets you control frame rates from one to 24fps, and adjust image **quality** on an increasing scale from one to five).

At highest **compression** , audio and **video** are slightly

de-synchronized and choppy, resulting in a "dubbed" effect. Less compression (medium and large) provides a much better **quality** picture and better synch, though at the cost of bandwidth. Actual upload/download times depend on many variables -- but we...

12/3,K/6 (Item 6 from file: 275)
DIALOG(R)File 275:Gale Group Computer DB(TM)

02053122 SUPPLIER NUMBER: 18791110 (USE FORMAT 7 OR 9 FOR FULL TEXT)
A desktop-video primer. (equipment for video) (includes related articles on tips and compression techniques) (Buyers Guide)
Grey, Kennedy
MacUser, v12, n12, p123(3)
Dec, 1996
DOCUMENT TYPE: Buyers Guide ISSN: 0884-0997 LANGUAGE: English
RECORD TYPE: Fulltext; Abstract
WORD COUNT: 2758 LINE COUNT: 00212

... in drive that came with your Mac, and use your new hard disk as the scratch disk for recording.
RELATED **ARTICLE** : Making Smaller **Movies** / **compression** strategies
FACE IT, YOU'VE GOT TO **COMPRESS** your **movies** before playing them back on the Mac or adding them to your Web site. Neither the fastest Mac nor the Internet can move uncompressed data fast enough to play video cleanly. But how much should you **compress** your **movie** , and how should you go about it? Since greater **compression** equals lower **image** quality, you need to **find** an optimum compression rate, based on your intended playback medium and the image quality you need. Adobe Premiere 4.2...
...189), from Terran Interactive (800-577-3443 or 408-278-9065).This software is designed to create the best-possible **video - compression** settings, based on **information** you supply during an "interview" process. You're asked to decide the relative importance of such things as **compression** rate versus image quality, audio quality versus video **quality** , and smooth motion versus clear image quality. Also, MovieCleaner Pro compresses your movie based on what it has learned. Experienced...

12/3,K/7 (Item 7 from file: 275)
DIALOG(R)File 275:Gale Group Computer DB(TM)

02044666 SUPPLIER NUMBER: 19102736 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Over the paradigm cliff. (rise of code division multiple access technology) (Telecosm and Beyond) (Technology Information) (Column)
Gilder, George
Forbes, v159, n4, pS29(5)
Feb 24, 1997
DOCUMENT TYPE: Column ISSN: 0015-6914 LANGUAGE: English
RECORD TYPE: Fulltext; Abstract
WORD COUNT: 4122 LINE COUNT: 00326

... get the 28.8 modem, the celebration of narrowband ISDN. You get 8-kilobit vocoders for cellular that give voice **quality** inferior to wire line. You get 384-kilobit video teleconferencing inferior to NTSC television.
In a world where several companies...

...an entire worldwide communications net that carries a rough total of just one terabit per second. Everywhere you look you **find** capacity expanded through TDM (time division multiplexing), by **compressing** **messages** into ever **smaller** time slots and spans of spectrum in both wired and wireless telephone networks.
With the rise of data, bursty and...

12/3,K/8 (Item 8 from file: 275)

DIALOG(R)File 275:Gale Group Computer DB(TM)
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01929460 SUPPLIER NUMBER: 18229712
Windows 95 shareware. (enhancing Windows 95 features with shareware) (includes related articles on online shareware locations and Macintosh shareware) (Product Information)
Lindquist, Christopher
PC Entertainment, v3, n4, p96(2)
April, 1996
LANGUAGE: English RECORD TYPE: Abstract

...ABSTRACT: but some will increase user productivity and make Windows computing a more enjoyable event. Users are advised to obtain a **quality** virus protection program because shareware downloaded from the Internet may be contaminated with bugs. PKWare's PKZip **data compression** software makes **files smaller** and easier to manipulate while Nico Mak **Computing** 's WinZip operating system utility gives users a convenient GUI for managing files. McAfee Associates' VirusScan for Windows 95 is...

12/3,K/9 (Item 9 from file: 275)
DIALOG(R)File 275:Gale Group Computer DB(TM)
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01723016 SUPPLIER NUMBER: 16311159 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Maximize the output of your video/animations. (Matrox Electronics' Animation Xpress video capture/compression board set) (Hardware Review) (Evaluation)
Tissavary, John
Computer Graphics World, v17, n10, p65(2)
Oct, 1994
DOCUMENT TYPE: Evaluation ISSN: 0271-4159 LANGUAGE: ENGLISH
RECORD TYPE: FULLTEXT; ABSTRACT
WORD COUNT: 1004 LINE COUNT: 00072

... of my computer and hard drive, check its data throughput, and write a configuration file, which would be used to **calculate** the **lowest** possible **JPEG compression** ratio for each frame of a file. When writing a file to tape, you can't control the JPEG ratio; the software automatically shoots for the highest **quality** possible. If you're using MAX to capture and **compress video** on the fly, however, you can determine the JPEG ratio via slider bars. I actually talked to Matrox about adding...

12/3,K/10 (Item 10 from file: 275)
DIALOG(R)File 275:Gale Group Computer DB(TM)
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01636413 SUPPLIER NUMBER: 15119560 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Video compression/decompression chips aim at wide range of applications. (Integrated Information Technologies' Vision Control Processor and Audio Digital Imaging's Apogee M-1 processor family) (Software & Development Tools) (Product Announcement)
Williams, Tom
Computer Design, v32, n12, p40(2)
Dec, 1993
DOCUMENT TYPE: Product Announcement ISSN: 0010-4566 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT
WORD COUNT: 842 LINE COUNT: 00066

... achieved with a programmable platform. Motion estimation and error correction are likewise carried out under program control. For honing picture **quality** , the VCP offers pre- and post-processing with programmable filtering, scaling, color-conversion and graphics-overlay functions. With the ADI...

...or ME chips. The F chip offers median, temporal and spatial filtering to insure clean data which, in turn, yields **lower compressed data** rates. Filter coefficients are software-selectable. The ME motion- **estimation** chip performs realtime vector searches on 4 x 4 pixel blocks with half-pixel accuracy.

Both Audio Digital Imaging and Integrated Information Technologies appear to be targeting the same arena of applications: MPEG **compression** /decompression, **video** conferencing, **multimedia** applications and decode-only applications such as CD-ROM and cable broadcast of digitally compressed programs. Both companies are convinced...

12/3,K/11 (Item 11 from file: 275)
DIALOG(R)File 275:Gale Group Computer DB(TM)

01527551 SUPPLIER NUMBER: 12528649 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Microsoft blasts into sound-card arena. (Microsoft Corp.'s Foghorn sound board for Microsoft Windows)
Fisher, Susan E.
PC Week, v9, n32, p1(2)
August 10, 1992
ISSN: 0740-1604 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT
WORD COUNT: 567 LINE COUNT: 00046

... its Deskpro/M line.

The ASIC produces relatively compact sound files -- about 700K bytes per minute -- when processing basic telephone- **quality** , monophonic, 8-bit, 11KHz audio. But 16-bit, CD- **quality** stereo-sound files can require up to eight times as much storage space.

Potential of DSP With a digital-signal processor (DSP) chip and **compression** software, sound **files** can be **compressed** at least tenfold. Although sources said Foghorn does not include a DSP chip, Microsoft could easily build it into future cards. In addition, sources said Microsoft is **determining** how **best** to incorporate **file - compression** software into future versions of Windows.

Older games and applications designed specifically to run under DOS and use Creative Labs...

12/3,K/12 (Item 12 from file: 275)
DIALOG(R)File 275:Gale Group Computer DB(TM)

01427972 SUPPLIER NUMBER: 10589134 (USE FORMAT 7 OR 9 FOR FULL TEXT)
CD-I full-motion video encoding on a parallel computer. (includes related articles on the Parallel Object-Oriented Machine and the CD-I full-motion video decoder) (technical)
Sijstermans, Frans; van der Meer, Jan
Communications of the ACM, v34, n4, p81(11)
April, 1991
DOCUMENT TYPE: technical ISSN: 0001-0782 LANGUAGE: ENGLISH
RECORD TYPE: FULLTEXT; ABSTRACT
WORD COUNT: 7435 LINE COUNT: 00585

... Furthermore, we especially aim at long video sequences and for those the start-up and die-out effects are relatively **small** .

Video Compression

The motion **estimation** does not do any compression; it just **finds** the best-matching blocks. In the **compression** phase this **information** will be used if a block is encoded relative to another block. The goal of this phase is to reduce...

...the video stream to the desired bit rate without losing so much information that it will severely influence the image **quality** . A diagram showing the components of the **video compression** is given in Figure 2.

The **video compression** starts with a decision determining how to encode the blocks. Again we distinguish between predicted frames and

interpolated frames. For...

12/3,K/13 (Item 13 from file: 275)
DIALOG(R)File 275:Gale Group Computer DB(TM)

01427966 SUPPLIER NUMBER: 10582080 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Standards and the emergence of digital multimedia systems. (includes glossary of terms)
Fox, Edward A.
Communications of the ACM, v34, n4, p26(4)
April, 1991
ISSN: 0001-0782 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT
WORD COUNT: 3935 LINE COUNT: 00346

... signal
composite signal single signal encoding the luminance and chrominance signals
deadzone (threshold) in quantization, levels below are zeroed
entropy **measure** of information in **message** (**lower** bound for **compression**)
entropy encoder lossless **compression** based on **message** -part probabilities
filtering eliminating parts of data (e.g., high-frequency emphasis)
fractal **image compression** associate rules for a close fractal with an image
frame in motion video, a single image (e.g., every 1...
...of external video source, computer video
human visual system (HVS) considered when weighting transform coefficients to give best perceived image **quality**
hypermedia hypertext-type linking with multimedia
interpolation (upsampling) reconstructing output from sample of input values
layered structure bit stream coded bits organization (e.g., sequence, **picture**)
lossless (noiseless) **compression** ensures original **data** is exactly recoverable
lossy (noisy) compression original data is not completely recoverable
luminance brightness (monochrome) of an image (e.g...

12/3,K/14 (Item 1 from file: 621)
DIALOG(R)File 621:Gale Group New Prod.Annou.(R)

02151505 Supplier Number: 55498057 (USE FORMAT 7 FOR FULLTEXT)
MetaStream 3D Plug-in Selected by Sony, CBS for Online Sweepstakes.
Business Wire, p0073
August 19, 1999
Language: English Record Type: Fulltext
Document Type: Newswire; Trade
Word Count: 1054

... to manipulate them in real time.
This, in turn, permits Web content developers to generate sites of the highest possible **quality** for enjoyment by power users, while still assuring the satisfaction of users with limited bandwidth and/or **computing** power.
MetaStream **files** are also **small** , **compressed** and scalable, more so than today's other 3D technologies for the Internet, resulting in faster viewing times. Further, MetaStream...

12/3,K/15 (Item 1 from file: 636)
DIALOG(R)File 636:Gale Group Newsletter DB(TM)

05357674 Supplier Number: 84926197 (USE FORMAT 7 FOR FULLTEXT)
3DCompress for efficient online STL viewing. (Software News).
Rapid Prototyping Report, v11, n10, p7(2)
Oct, 2001
Language: English Record Type: Fulltext
Document Type: Newsletter; Trade
Word Count: 493

... as much as 98 percent with no loss of detail using what 3D Compression chief executive Anshuman Razdan calls lossless **compression** . The **compressed files** can be viewed, but can't be expanded again for use in rapid prototyping, although Razdan says this feature might be added in the future.

We loaded an STL **measuring** 3,645 kilobytes, and at the **minimum compression** rate, 3DCompress reduced it by 96 percent to just 145 kilobytes. At maximum compression, we did see a slight degradation in model **quality** , but the file size was reduced to 84 kilobytes. By comparison, WinZip **compressed** the **file** by only about 50 percent.

After compression, 3DCompress displays the smaller file in a window next to the original for over a 56-kilobyte-per-second Internet connection, whereas the **compressed file** would take only five seconds.

After **compressing** a **file** , 3DCompress generates an HTML that includes JavaScript controls so that a person viewing the file can manipulate the image by...

12/3,K/16 (Item 2 from file: 636)
DIALOG(R)File 636:Gale Group Newsletter DB(TM)

04830113 Supplier Number: 64690999 (USE FORMAT 7 FOR FULLTEXT)
BRING IMAGES INTO FOCUS.(digital imaging process)
Farace, Joe
The Press, v22, n4, p39
April, 2000
Language: English Record Type: Fulltext
Document Type: Magazine/Journal; Trade
Word Count: 1767

... more and more under-$1,000 models have them.

* All cameras use some kind of JPEG (Joint Photographic Experts Group) **compression** to store **images** . **JPEG** techniques **compress** an **image** , and the greater the compression ratio, the greater loss of **quality** you can expect. Be sure to check what ratios are used to store images in the camera. Lower compression produces fewer, better **quality** images. The best option for **maximum quality** is "no **compression** ."

* A digital **photograph** 's resolution is **measured** by the width and height of the image measured in pixels. The higher an image s resolution -- the more pixels it has -- the better the visual **quality** will be.

At the introductory end of the digital camera spectrum, your choices range from 820 x 240 to 1...

12/3,K/17 (Item 3 from file: 636)
DIALOG(R)File 636:Gale Group Newsletter DB(TM)

04412302 Supplier Number: 55544859 (USE FORMAT 7 FOR FULLTEXT)
METACREATIONS: Sony/Late Show Ultimate Cyber-Search Sw Sweepstakes launches new model for web advertising.
M2 Presswire, pNA
August 23, 1999
Language: English Record Type: Fulltext
Document Type: Newswire; Trade
Word Count: 899

... to manipulate them in real time. This, in turn, permits Web content developers to generate sites of the highest possible **quality** for

enjoyment by power users, while still assuring the satisfaction of users with limited bandwidth and/or **computing** power.

MetaStream **files** are also **small** , **compressed** and scalable, more so than today's other 3D technologies for the Internet, resulting in faster viewing times. Furthermore, MetaStream...

12/3,K/18 (Item 4 from file: 636)
DIALOG(R)File 636:Gale Group Newsletter DB(TM)
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04403034 Supplier Number: 55417722 (USE FORMAT 7 FOR FULLTEXT)
METACREATIONS: Mac users enter new era of ph photo-realistic 3D on the web.
M2 Presswire, pNA
August 11, 1999
Language: English Record Type: Fulltext
Document Type: Newswire; Trade
Word Count: 789

... to manipulate them in real time. This, in turn, permits Web content developers to generate sites of the highest possible **quality** for enjoyment by power users, while still assuring the satisfaction of users with limited bandwidth and/or **computing** power.

MetaStream **files** are also **small** , **compressed** and scalable, more so than today's other 3D technologies for the Internet, resulting in faster viewing times. Further, MetaStream...

12/3,K/19 (Item 5 from file: 636)
DIALOG(R)File 636:Gale Group Newsletter DB(TM)
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04171161 Supplier Number: 54620579 (USE FORMAT 7 FOR FULLTEXT)
NAB Preview; Storage.
Crooks, Roger
Broadcast Engineering, pNA
March, 1999
Language: English Record Type: Fulltext
Document Type: Magazine/Journal; Newsletter; Trade
Word Count: 962

... differ from videotape cart machines in that they are not format specific and can store material (including metadata) in any **compression** format. Digital **data** can be transferred from server to data tape (or vice versa) at faster than play speed using secure file transfer...

...video server will offer a variety of compression formats to match your choice of VTR format and application. Compression format **determines** the efficiency of the storage. Currently MPEG offers the **highest compression** efficiency, provides better **quality** at lower data rates and is particularly well suited to transmission applications. That means more record time per storage dollar...

12/3,K/20 (Item 6 from file: 636)
DIALOG(R)File 636:Gale Group Newsletter DB(TM)
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03448583 Supplier Number: 47105142 (USE FORMAT 7 FOR FULLTEXT)
ITERATED SYSTEMS: Online video made easy with Iterated Systems' media partners alliance programme
M2 Presswire, pN/A
Feb 6, 1997
Language: English Record Type: Fulltext
Document Type: Newswire; Trade
Word Count: 706

... programme and will provide comprehensive support to partners to

ensure that they have the best resources available to them. Authorised **video compression** and **content** partners will be provided with the latest information on product updates through Iterated's Web site, early availability of select...

...from Iterated's corporate activities as well as advertising and marketing support.

"The Media Partners Alliance Programme will help customers **find** the **best** sources for **video compression** , original **video** producers and stock content providers," said Emma Heslop, Iterated's Media Partners Alliance Programme manager. "These three areas are the...
...eliminate this barrier and make it a great deal easier for customers' online applications to become video enabled."

Leading German **video compression** bureau, Digital **Media** Development GmbH (DMD), has recently signed up to the programme and has integrated Iterated's technology on its Web site at http://www.dmd.de. "ClearVideo is an excellent product offering the highest **quality** video at very small file sizes and is ideally suited for the delivery of video over the Internet," said Jorn...

12/3,K/21 (Item 7 from file: 636)
DIALOG(R)File 636:Gale Group Newsletter DB(TM)

03345255 Supplier Number: 46877747 (USE FORMAT 7 FOR FULLTEXT)
NBC DESKTOP VIDEO ADDS DIGITAL TO TECH SHOWCASE
Interactive Video News, v4, n23, pN/A
Nov 11, 1996
Language: English Record Type: Fulltext
Document Type: Magazine/Journal; Trade
Word Count: 680

... Bob Davis, Iterated's vice president of marketing and business development, said his company's inclusion indicates market demand for **compressed** , network **video** for corporate environments.

Iterated Systems' key product is Clear **Video** , a **video compression** application based on Iterated's submission to the MPEG-4 committee. The MPEG-4 effort is aimed at **determining** new standards for **low data** -rate **video compression** , and is expected to be complete in November 1998.

The product enables corporations to deliver high **quality** video to their networked clients (including over the Internet) at the very smallest file sizes and using all egrees of...

12/3,K/22 (Item 8 from file: 636)
DIALOG(R)File 636:Gale Group Newsletter DB(TM)

02929997 Supplier Number: 45960709 (USE FORMAT 7 FOR FULLTEXT)
NOTEBOOK: MPEG-1 AND MPEG-2 FORMATTED DIGITAL VIDEOS RATED BETTER THAN VHS IN PICTURE QUALITY
Consumer Electronics, v35, n48, pN/A
Nov 27, 1995
Language: English Record Type: Fulltext
Document Type: Newsletter; Trade
Word Count: 108

... MPEG-1 and said bit rate of 3.0 Mbps "will provide the best improvement in perceived picture and sound **quality** " over current standards, although MPEG-1 compression delivered at 1.5 Mbps was found "very acceptable" and preferred over VHS. Study was made to **find best** standard for digital **compression** of **movies** , Pacific Telesis said. In tests, consumers viewed pictures in small groups on 3 sizes of new Sony Trinitron consumer TVs.

12/3,K/23 (Item 9 from file: 636)

DIALOG(R)File 636:Gale Group Newsletter DB(TM)

02417088 Supplier Number: 44800202 (USE FORMAT 7 FOR FULLTEXT)
When redesign isn't necessary
Desktop Publishing Commentary, v10, n3, pN/A
July, 1994
Language: English Record Type: Fulltext
Document Type: Newsletter; Trade
Word Count: 4342

... inch, therefore a scanned image pixel resolution of 120 dpi is best. It is also worth noting that image print **quality** is compromised if we allow Acrobat Distiller to subsample images as low as the default 72 dpi resolution. Dithered halftones...

...as medical imaging), very high resolutions may be needed, and the view is zoomable to see the detail. As for **data compression** , the **JPEG** method for continuous tone images may compromise viewing **quality** with its artefacts; but if detail is important, JPEG may be the only way to keep file **size small** . The designer must **assess** the trade-off.
Vector-drawn maps and diagrams can be zoomed too, and will redraw at the new resolution, so...

12/3,K/24 (Item 1 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)

04399942 Supplier Number: 46454433 (USE FORMAT 7 FOR FULLTEXT)
MediaPaint nipped by buggy Windows port: Former Mac-only special effects applications now available for Windows
InfoWorld, p111
June 10, 1996
Language: English Record Type: Fulltext
Document Type: Magazine/Journal; Trade
Word Count: 1263

... bluescreen method used in the television and movie industry.
When you save your clip as a Video for Windows (.AVI) **file** , the **Video Compression** dialog box gives you several different options for setting the compression. You'll need to experiment to **find** the **compression** setting that works **best** . If you choose an incorrect compression setting, you'll see static lines running across the face of the clip when you play it back. It's a good idea to save your file and play it back to check the **quality** before you spend time creating effects.
MediaPaint could use a bit of improvement in its Windows implementation. I experienced frequent...

12/3,K/25 (Item 2 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)

02721835 Supplier Number: 43639643 (USE FORMAT 7 FOR FULLTEXT)
TI, C-Cube to cooperate on JPEG, MPEG silicon
Electronic World News, p1
Feb 8, 1993
Language: English Record Type: Fulltext
Document Type: Magazine/Journal; Trade
Word Count: 594

... its own DSP expertise to produce more expensive programmable video processors.
The distinction accurately reflects a gradual separation of the **video - compression** market into at **least** three **identifiable** segments. One consists of communications applications - picturephone and teleconferencing, for example - using low-bit-rate, real-time codecs.

A second segment requires much higher performance. This is the programmable, full-resolution market, where algorithms may change and where image **quality** is paramount. Applications include research, and encoders for consumer **media** : compact disks, **compressed** cable TV, **video** dial-tone services and the like.

The third segment lies on the other end of the wire from these encoders...

12/3,K/26 (Item 3 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)

02710647 Supplier Number: 43623038 (USE FORMAT 7 FOR FULLTEXT)
C-CUBE, TI JOIN FOR SILICON SOLUTIONS BASED ON MPEG/JPEG
Electronic Engineering Times, p1
Feb 1, 1993
Language: English Record Type: Fulltext
Document Type: Magazine/Journal; Trade
Word Count: 1018

... on its own DSP expertise for more expensive programmable video processors.

The distinction accurately reflects a gradual separation of the **video compression** market into at **least** three **identifiable** segments. One segment consists of communications applications - picture-phone and teleconferencing, for example - using low-bit-rate, real-time codecs...

...second segment requires much higher performance. This is the programmable, full-resolution market, where algorithms may change and where image **quality** is paramount. Applications include research, and encoders for consumer **media** : compact disks, **compressed** cable TV, **video** dial-tone services and the like. This segment is being addressed, for instance, by startup GC Technology.

The third segment...

12/3,K/27 (Item 1 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB

08744225 SUPPLIER NUMBER: 18381073 (USE FORMAT 7 OR 9 FOR FULL TEXT)
MediaPaint nipped by buggy Windows port; former Mac-only special effects applications now available for Windows. (Strata's MediaPaint for Windows 95/NT) (Software Review) (Evaluation)
Dunn, Julie
InfoWorld, v18, n24, p111(2)
June 10, 1996
DOCUMENT TYPE: Evaluation ISSN: 0199-6649 LANGUAGE: English
RECORD TYPE: Fulltext; Abstract
WORD COUNT: 1331 LINE COUNT: 00102

... bluescreen method used in the television and movie industry.

When you save your clip as a Video for Windows (.AVI) **file** , the **Video Compression** dialog box gives you several different options for setting the compression. You'll need to experiment to **find** the **compression** setting that works **best** . If you choose an incorrect compression setting, you'll see static lines running across the face of the clip when you play it back. It's a good idea to save your file and play it back to check the **quality** before you spend time creating effects.

MediaPaint could use a bit of improvement in its Windows implementation. I experienced frequent...

12/3,K/28 (Item 2 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB

08518897 SUPPLIER NUMBER: 18079617 (USE FORMAT 7 OR 9 FOR FULL TEXT)
JPEG parameters determine compression-system performance. (Joint Photographic Experts Group compressor) (includes related article)
Grosse, Debora
EDN, v41, n2, p141(6)
Jan 18, 1996
ISSN: 0012-7515 LANGUAGE: English RECORD TYPE: Fulltext; Abstract
WORD COUNT: 4243 LINE COUNT: 00344

... is considering this as an extension.
To develop your own quantization tables, you need prototyping tools. These tools consist of **JPEG - compression** and -decompression software; a representative collection of images; and a display or other output device that models the one planned for your system. By altering the quantization tables and **compressing** the **images** , you can observe the trade-off between distortion and bit rate. (Figure 2 shows the effects of five quantization tables.) The challenge is gathering a sufficient collection of **images** .
If **compressed - image** size is not critical to your application, the choice of a quantization table is simple. If you require a **small compressed - image size** , however, you will **find** that achieving a quantization table that gives acceptable distortion over a range of test images takes a lot of experimenting...

...multipliers to the example luminance quantization table in the JPEG standard, Annex K. You manually adjust the multipliers until the **images compress** to the desired average bit rate. You can also try fine tuning the table by tweaking individual table values. If...

...can try quantization-table-design algorithms developed by the researchers at Unisys Corporation (Reference 4). These algorithms give a better **quality** -vs-rate trade-off than does scaling the example table.
Optimize Huffman tables
With any lossy compression technique, there are...

12/3,K/29 (Item 3 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
(c)2004 The Gale Group. All rts. reserv.

07514208 SUPPLIER NUMBER: 16213166 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Plan your 2001 network now. (includes related article on wiring) (Cover Story)
Strauss, Paul
Datamation, v40, n15, p32(4)
August 1, 1994
DOCUMENT TYPE: Cover Story ISSN: 1062-8363 LANGUAGE: ENGLISH
RECORD TYPE: FULLTEXT; ABSTRACT
WORD COUNT: 1493 LINE COUNT: 00116

... need optical for fast ATM or to overcome distance limitations.
* ATM BACKBONES as soon as they become practical. Until then, **find** the **best compressed** backbone hub you can or go with Fast Ethernet.
* ON THE WAN, Frame Relay for data, virtual private networks for...

...trend toward networked multimedia (meaning largely desktop videoconferencing or video plus networked applications). Yet today's technology can deliver high- **quality compressed video** at less than 1.5Mbps for full-screen applications. Switched 10Mbps LANs should be more than adequate, particularly if only...

12/3,K/30 (Item 4 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
(c)2004 The Gale Group. All rts. reserv.

06168951 SUPPLIER NUMBER: 12823827 (USE FORMAT 7 OR 9 FOR FULL TEXT)
SMDS - a path to ATM and beyond. (Asynchronous Transfer Mode) (includes

related article on standards)
Mollenauer, James F.
Business Communications Review, v22, n10, p33(5)
Oct, 1992
ISSN: 0162-3885 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT
WORD COUNT: 4177 LINE COUNT: 00327

... advanced services, such as those offered by ATM.
Other needs are not as well developed as LAN interconnection--for example, **compressed video** applications. Until recently, **video compression** was a rarity, usually reserved for videoconferencing between the specially constructed conference rooms of large corporations. However, this is changing dramatically, due to several factors:
* **Low** -bit-rate **video compression** .
* **Multimedia computing** .
* Distance education needs.
* Digital video processing and transmission.
Clearly, wide-area videoconferencing will become a larger market if line charges...
...brought down, and if ambient noise cancellation and good user interfaces eliminate the need for soundproof conference rooms. Currently, most **video compression** systems produce a fixed-rate output, ranging in speed from a voice channel to 45 Mbps, with corresponding differences in picture **quality** .
But the information content of a video picture can change from moment to moment. A scene with lots of detail...

12/3,K/31 (Item 5 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
(c)2004 The Gale Group. All rts. reserv.

05144245 SUPPLIER NUMBER: 10329059 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Catch multimedia wave, Comdex crowds told. (multimedia computing)
Daniel, Dianne
Computer Dealer News, v7, n1, p1(2)
Jan 10, 1991
ISSN: 1184-2369 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT
WORD COUNT: 1284 LINE COUNT: 00104

... i750, the chip set is available for under US$100 in volume quantities.
"We have really brought the price of **video compression** and decompression technology down to where we believe it can really have broad penetration in the PC field," said Intel...

...of full-motion video with audio on a compact disc.
C-Cube Microsystems of San Jose, CA, also offers digital **image compression** technology in its chip based on Joint Photographic Experts Group (JPEG) standards. According to a newsletter put out by Multimedia **Computing** Corp. of Santa Clara, CA, however, "JPEG is a much **lower** level of **compression** that DVI offers. ...As a result, **JPEG - compressed** motion **video** takes far more storage space and requires more bandwidth than CD-ROM (compact disc-read only memory) can deliver."
And...

...algorithm called JVC Extended. The company claims its technology will make it possible to reproduce moving images with a picture **quality** that exceeds the level of broadcast television images.
The bottom line is that multimedia technology is here, but it also...

12/3,K/32 (Item 6 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
(c)2004 The Gale Group. All rts. reserv.

04593034 SUPPLIER NUMBER: 09023935 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Ion bombardment: a determining factor in plasma CVD. (silicon dioxide film

production)
Hey, H.P.W.; Sluijk, B.G.; Hemmes, D.G.
Solid State Technology, v33, n4, p139(6)
April, 1990
ISSN: 0038-111X LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT
WORD COUNT: 3749 LINE COUNT: 00300

... by a remote plasma)[6], and TEOS with other oxidants like [NF.sub.3][7]. In all cases, the film **quality** and step coverage of the resulting films were found to be strongly dependent on process conditions.
We concentrated on the TEOS/oxygen chemistry and found that film **quality** measurements such as refractive index, wet etch rate in 6:1 ([NH.sub.4] F:HF) buffered oxide etch, film...

...FTIR are all strongly affected by the total reactor pressure and the frequency of the rf excitation. Since the best **quality** films are those which have a low wet etch rate (high **film** density) and **low compressive** stress, our **measurements** were limited to these characteristics. The process parameters (pressure, power, and frequency) were varied and their effects on film **quality** were analyzed. It will be shown that ion bombardment accounts for much of the variation in film properties.
The films...

12/3,K/33 (Item 1 from file: 15)
DIALOG(R)File 15:ABI/Inform(R)

01809854 04-60845
Storage
Crooks, Roger; Bernstein, Charlie; Ott, Robert
Broadcast Engineering v41n3 PP: 114-119 Mar 1999
ISSN: 0007-1994 JRNL CODE: BRG
WORD COUNT: 2072

...TEXT: differ from videotape cart machines in that they are not format specific and can store material (including metadata) in any **compression** format. Digital **data** can be transferred from server to data tape (or vice versa) at faster than play speed using secure file transfer...

... video server will offer a variety of compression formats to match your choice of VTR format and application. Compression format **determines** the efficiency of the storage. Currently MPEG offers the **highest compression** efficiency, provides better **quality** at lower data rates and is particularly well suited to transmission applications. That means more record time per storage dollar...

12/3,K/34 (Item 2 from file: 15)
DIALOG(R)File 15:ABI/Inform(R)

01226077 98-75472
MediaPaint nipped by buggy Windows port
Dunn, Julie
InfoWorld v18n24 PP: 111-113 Jun 10, 1996
ISSN: 0199-6649 JRNL CODE: IFW
WORD COUNT: 1123

...TEXT: bluescreen method used in the television and movie industry.

When you save your clip as a Video for Windows (.AVI) **file** , the **Video Compression** dialog box gives you several different options for setting the compression. You'll need to experiment to **find** the **compression** setting that works **best** . If you choose an incorrect compression setting, you'll see static lines running across the face of the clip when you play it back. It's a good idea to save your file and play it back to check the **quality** before you spend time creating effects.

(Table Omitted)

MediaPaint could use a bit of improvement in its Windows implementation. I ...

12/3,K/35 (Item 3 from file: 15)
DIALOG(R)File 15:ABI/Inform(R)

01152749 98-02144
Innovation reigns at Milan's ITMA 95
Isaacs, McAllister III; Rozelle, Walter N Jr
Textile World v145n12 PP: 44-70 Dec 1995
ISSN: 0040-5213 JRNL CODE: TXW
WORD COUNT: 11505

...TEXT: to be much that electronics can't accomplish when it comes to providing real-time information to the textile industry.

Quality control. You can now see exactly how fabric will look using yarns you've just produced without ever weaving or knitting the fabric.

Zellweger Uster, a name that's synonymous with **quality** control and assurance, continues to expand its capabilities in its field-to-fabric **quality** arena. The Uster Expert system not only **determines** faults in the production process, but it **compresses** **data** to the **minimum** required by the user, **determines** the cause of the fault and shows its influence in fabric, woven or knit.

Expert permits connection of the Uster...

12/3,K/36 (Item 1 from file: 647)
DIALOG(R)File 647:CMP Computer Fulltext

01248827 CMP ACCESSION NUMBER: NWC20020218S0026
SHRINKING THE VIDEO: HOW CODECS WORK - Before you even start to research streaming-media solutions, take some time to understand the variety of open codec standards. You'll be glad you did.
Darrin Woods
NETWORK COMPUTING, 2002, n 1304, PG77
PUBLICATION DATE: 020218
JOURNAL CODE: NWC LANGUAGE: English
RECORD TYPE: Fulltext
SECTION HEADING: WORKSHOP - DIGITAL CONVERGENCE
WORD COUNT: 2172

... may take shortcuts to get to the end result, leaving a video signal that does not retain all the original **quality** and clarity or isn't compressed as tightly. The trick is to **find** the balance between small **files** and real-time **compression** that gives the **best** **quality** .

Video codecs are typically classified as lossy or lossless. Typically, lossy means a visible loss of **quality** , whereas lossless defines an image with imperceptible loss. Truth be told, most video codecs are lossy to some extent. Because video **quality** is subjective, some amount of loss is acceptable without degrading the experience.

The MPEG family

The most recognizable form of...

12/3,K/37 (Item 2 from file: 647)
DIALOG(R)File 647:CMP Computer Fulltext

00535513 CMP ACCESSION NUMBER: EET199302015804

MPEG picture's in motion - C-CUBE, TI JOIN FOR SILICON SOLUTIONS BASED ON MPEG/JPEG

BRIAN FULLER ; RON WILSON

ELECTRONIC ENGINEERING TIMES, 1993, n 731, 1
PUBLICATION DATE: 930201
JOURNAL CODE: EET LANGUAGE: English
RECORD TYPE: Fulltext
SECTION HEADING: News
WORD COUNT: 1036

... on its own DSP expertise for more expensive programmable video processors.

The distinction accurately reflects a gradual separation of the **video compression** market into at **least** three **identifiable** segments. One segment consists of communications applications-picturephone and teleconferencing, for example-using low-bit-rate, real-time codecs. This ...

...second segment requires much higher performance. This is the programmable, full-resolution market, where algorithms may change and where image **quality** is paramount. Applications include research, and encoders for consumer **media** : compact disks, **compressed** cable TV, **video** dial-tone services and the like. This segment is being addressed, for instance, by startup GC Technology.

The third segment...

12/3,K/38 (Item 1 from file: 674)

DIALOG(R)File 674:Computer News Fulltext

080247

Streaming 101: The Basics

Journal: Network World Page Number: 41
Publication Date: December 20, 1999
Word Count: 529 Line Count: 50

Text:

... Internet.The most significant caveat to the use of streaming media in place of traditional videotape or broadcast mediums is **quality** of playback. According to Optibase, a video hardware company, uncompressed video running full screen, full motion (30 frames per second...

... network can result in a jittery picture and out-of-sync audio playback. Network managers will need to experiment to **find** the **best** combination of **video compression** for playback **quality** . It may also be worthwhile to encode multiple versions of **content compressed** at different rates to address different bandwidth and companywide traffic conditions, or to develop audio-only or multimedia presentations for...

15/3,K/1 (Item 1 from file: 275)
DIALOG(R)File 275:Gale Group Computer DB(TM)

01494341 SUPPLIER NUMBER: 11674564 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Image-In-Color: desktop darkroom. (image processing software from Image-In Inc.) (Software Review) (Product Reviews) (Evaluation)
Glinert-Stevens, Susan
PC Sources, v3, n1, p401(1)
Jan, 1992
DOCUMENT TYPE: Evaluation ISSN: 1052-6579 LANGUAGE: ENGLISH
RECORD TYPE: FULLTEXT; ABSTRACT
WORD COUNT: 837 LINE COUNT: 00066

... 7 million colors. It supports over 11 different file formats, including .IMG, .PCX, .TGA, and .TIF with several types of **compression** . **Image** -In will also support plug-in format modules written by third-party developers. While it can't import .EPS files...

...right mouse button invokes fly-out menus for controlling the parameters of the current tool, such as spacing, fadeout, line **weight** , and edge appearance. Many tools have an adjustable pressure setting that **determines** the **density** of the paint placed on the **image** ; this setting is linked to the Wacom drawing pen if you have one installed.
Besides being fast, diverse, and sensitive...

15/3,K/2 (Item 2 from file: 275)
DIALOG(R)File 275:Gale Group Computer DB(TM)

01365819 SUPPLIER NUMBER: 08669814 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Solving your image problem: three conversion utilities for graphics files. (overview of three evaluations of graphics conversion packages) (includes related article on Editor's Choice) (evaluation)
Raskin, Robin
PC Magazine, v9, n14, p281(8)
August, 1990
DOCUMENT TYPE: evaluation ISSN: 0888-8507 LANGUAGE: ENGLISH
RECORD TYPE: FULLTEXT; ABSTRACT
WORD COUNT: 1098 LINE COUNT: 00087

... one shade of black. In practice, therefore, converting color to monochrome requires dithering, in which the colors of the original **image** are replaced with dot patterns of greater or lesser **density** , **giving** the appearance of **gradual** shading.
Dithering is, at best, an inexact science. When dithered, color **images** tend to lose details, and moire patterns (an unaesthetic swirling in the patterns of dots) can occur when dithering algorithms...

...These utilities also let you scale or rotate the images, invert the pixels on black-and-white images, and store **TIFF** **files** in either **compressed** or uncompressed format. On Macintosh conversions, you usually have the option of adding the header that the Macintosh expects to...

15/3,K/3 (Item 1 from file: 621)
DIALOG(R)File 621:Gale Group New Prod.Annou.(R)

03132586 Supplier Number: 83454267 (USE FORMAT 7 FOR FULLTEXT)
DivXNetworks Releases Revolutionary Suite of Video Compression Technologies; Complete DivX(TM) 5.0 Product Line Offers Quantum Improvements in Speed, Performance and Visual Quality, Debuts First Version of DivX(TM) Video Technology Designed for Professional Users.
PR Newswire, pLAM04104032002
March 4, 2002
Language: English Record Type: Fulltext

Document Type: Newswire; Trade
Word Count: 815

... for the seamless distribution and playback of true DVD-quality video over broadband networks, DivX 5.0 is capable of **data compression** ratios that exceed virtually any technology available today. With the advanced tools of DivX Pro, video professionals can achieve equivalent...

...of data through a revolutionary process called Psychovisual Modeling. Using knowledge of the Human Visual System (HVS), DivX 5.0 **assigns** a Psychovisual **Complexity Rating** (PCR) to each **video** frame, and removes data that can't be seen by human eyes in full-speed **video** sequences. This technology improves the efficiency of video data allocation and increases the overall **video** quality.

DivX **video compression** technology has become the de facto standard for high-quality IP video, with over 50 million downloads and an average...

15/3,K/4 (Item 1 from file: 636)
DIALOG(R)File 636:Gale Group Newsletter DB(TM)
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03531358 Supplier Number: 47296618 (USE FORMAT 7 FOR FULLTEXT)
Short Takes on High Yields
High Yield Report, v8, n151, pN/A
April 14, 1997
Language: English Record Type: Fulltext
Document Type: Newsletter; Trade
Word Count: 119

... with Parker & Paisley to form Pioneer Natural Resources Co. The new company is likely to be bumped up to investment- **grade**

General Instrument Co. recently introduced new **video compression** technology under the name "Digital **Density** "

Moody's Investors Service **assigned** a Ba1 **rating** to the 13 1/2% senior secured notes of the Mohegan Tribal Gaming Authority. The notes are due in 2002...

15/3,K/5 (Item 1 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
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06185008 SUPPLIER NUMBER: 13237106 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Banner Blue Movie Guide. (data base) (Software Review) (Evaluation)
Sears, David
Compute, v14, n11, p150(1)
Dec, 1992
DOCUMENT TYPE: Evaluation ISSN: 0194-357X LANGUAGE: ENGLISH
RECORD TYPE: FULLTEXT; ABSTRACT
WORD COUNT: 590 LINE COUNT: 00043

Thanks to **data compression** , more than 9000 **movie** profiles fit comfortably on your hard drive--that's more titles than most mom-and-pop stores carry. Floppy users can optionally install **Movie** Guide on two high- **density** disks; access time increases but remains tolerable. Within each profile you'll **find** the **movie** 's director and stars, a **rating** , and a brief plot summary. Details available from a submenu include critics' opinions, the level of box-office success, country...

15/3,K/6 (Item 1 from file: 647)
DIALOG(R)File 647:CMP Computer Fulltext
(c) 2004 CMP Media, LLC. All rts. reserv.

01102342 CMP ACCESSION NUMBER: OEM19960901S0022
The Land Beyond Benchmarks - The personal computer has made huge strides

in performance whether measured in Mips, Megahertz or any other metric. But, as it moves into multimedia, the PC heads into a terrain that few can quantify

Michael Slater
OEM MAGAZINE, 1996, n 431, PG64
PUBLICATION DATE: 960901
JOURNAL CODE: OEM LANGUAGE: English
RECORD TYPE: Fulltext
SECTION HEADING: Features
WORD COUNT: 2953

Making matters worse, **measuring multimedia** performance is a far more **complex** undertaking than **scoring** performance on productivity applications such as spreadsheets. For example, one implementation may shine on **video** decompression but be lackluster at three- dimensional processing; another, great at 3-D but unable to handle MPEG-2 without...

...PC OEMs many opportunities for differentiation:Intel Corp.'s MMX instruction-set extensions, a plethora of 3-D accelerator and **video** - **compression** chips, programmable multifunction **multimedia** accelerators, the emerging Accelerated Graphics Port interface and the new DirectX APIs and Talisman architecture from Microsoft Corp. These components...